President's Address

DELIVERED AT THE

SEVENTY-SEVENTH ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION,

BY

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THE BELFAST MEDICAL SCHOOL: A SURVEY OF THE STATE OF MEDICAL EDUCATION: NECESSARY REFORMS AND THE QUEEN'S UNIVERSITY OF BELFAST.

YOUR EXCELLENCIES, LADIES AND GENTLEMEN,—I discharge my first duty, and that which lies nearest to my heart, when I thank the members of the British Medical Association for the honour which they have conferred upon me by electing me to the Presidential Chair of their great society, numbering over 20,000 members, and containing in its ranks all that is best in the medicine of to-day, not only in the British Isles, but in our great colonies and dependencies beyond the seas.

It is my pleasing duty to offer, both upon behalf of the members of the medical profession residing in and around Belfast and in the Province of Ulster, a hearty Irish welcome to our visitors, and this greeting is most cordially endorsed by our citizens and chief magistrate, who have honoured us by their presence to-night at this our seventy-seventh annual meeting.

Our worthy and public-spirited Lord Mayor and City Council have given practical proof of the sincerity of their welcome by generously placing at our disposal their Exhibition and Ulster halls and their Botanical Gardens, as our esteemed Vice-Chancellor and his professors have thrown open to us for the week the entire range of class-rooms and buildings in the university.

MR. SIMEON SNELL.

My next duty is a sad one, as I refer to the irreparable loss sustained by the Association in the death of Professor Simeon Snell of Sheffield, who departed this life on April 17th last, during his year of office as President. Little did any of us, except, perhaps, his immediate circle of friends, suspect, when admiring his genial and manly presence at the highly successful Sheffield meeting a brief year ago, that never again were we to be privileged to sit under the spell of his magnetic personality.

The exhaustive sketch of his strenuous life which appeared in our JOURNAL soon after his death leaves me nothing to say about the high position which he had attained in his own realm of ophthalmology; nevertheless it is meet for us, in our bereaved condition, to mourn for him, and "to pay to his sweet memory the meed of a melodious tear."

His whole life was a long series of brave and strenuous efforts to make his profession better than he found it, to improve the condition of his fellows, and to exalt the position of the city in which his lot was cast.

The cause of his death, which occurred at the comparatively early age of 56, was arterio-sclerosis, and, as remarked by his friend, Sir Anderson Critchett, "had he been less prodigal of his boundless energy we might perhaps have been spared his untimely loss, but his faculties were ever at concert pitch, and he seemed to realize to the full Elizabeth Barrett Browning's terse and forcible injunction, 'Get work; be sure 'tis better than that you work to get.'"

This continuous draft upon his capacity for work led to the inevitable result—"Comes the blind Fury with th' abhorred shears and splits the thin-spun life; but not the praise." But not the praise—since he faded from our sight wearing the laurel crown of our great Association.

THE GROWTH OF BELFAST.

I shall not pause to dwell, as is usual on such occasions, upon the ancient historical associations of the city which the members of our organization honour by their visit. Our local historian, Benn, commenced his *History of Belfast*, written in 1877, with the short sentence, "Belfast as a town has no ancient history." Our position offers a marked contrast in this respect to the cities in which the Annual Meetings of the Association are frequently held in England, where the history of the meeting place is often in miniature the history of England.

This fact—as useless to deplore as it would be vainglorious for us to exult in—nevertheless has not been without its stimulating effect upon individual and collective exertion, teaching the sturdy citizen of Belfast that "He lives to build not boast a gen'rous race." It will be obvious to you how thoroughly he has learned the lesson if you survey our busy wharves with their evidences of a flourishing world-wide commerce, as you see the stately leviathans which glide down to the sea from our shipbuilding yards, and as you catch a glimpse of the myriads of human spiders who spin and weave from morn till night in our great flax mills and linen factories.

I shall not weary you with statistics which demonstrate the almost unparalleled if not absolutely unique progress made by Belfast in recent years; it is sufficient to remind you that since the Association honoured the city by its first visit, just a quarter of a century ago, the population has almost doubled and is still making rapid strides, which in a few more years promise to reach the grand total of half a million souls. At the same time it is a source of honest pride to the thoughtful Belfast man that whilst his native city has been directly prospering by his energy during the last three or four decades the achievements which have brought this success to her have in some instances purchased far-reaching benefits to many parts of the habitable globe. We have only to reflect upon the perfection of the processes employed in the spinning and weaving of linen, and the epoch-marking innovations in naval architecture inaugurated in 1870 by Sir Edward Harland, which have been continuously applied and perfected by his successors in the shipbuilding yard which it will be your privilege to visit during this busy week. The development of these new principles may in a sense be regarded as having annihilated sea distance, knitting together all parts of our huge empire, and bringing within comparatively easy reach the far-away places of the world. Neither do we forget the important part played in this triumph over storm and wave by our illustrious townsman, Lord Kelvin, who by his perfection of the mariner's compass has laid mankind under lasting obligations to his genius.

I shall refer to but one other invention of comparatively recent birth in Belfast. The application of the pneumatic principle to vehicular tyres by our townsman has in a similar sense annihilated land distance. Without its aid the motor car (in which so many of you now speed upon the wings of the wind on your errands of mercy) would have been an impossibility. The indirect outcome of the use of the Dunlop tyre has been the planting of flourishing industries in many English and Continental centres, as it has already covered with rubber trees the slopes of Ceylon and the swamps of the Malay Peninsula, whilst its direct effect has been the establishment of a revolution in human intercourse. From this remarkable invention Belfast as a city has, however, only reaped the benefits which have been enjoyed by all parts of the civilized world, owing to the head quarters of the industry being established in Coventry.

The present visit of the British Medical Association coincides with an epoch in our progress and history far more important and wide-reaching than those to which I have just referred. You do not find us gathered round the stocks to witness the launch of a huge record-breaking ocean liner or watching the gradual evolution of a pneumatic tyre, but you discover us in the act of taking the first steps in the inauguration of a movement compared with which all other of our past achievements are to be considered as of minor importance. You see us gathered around the cradle of an infant university confronted by potentialities beyond the power of language to describe or of human thought to foreshadow.

The New University.

The problem of higher education presents at all times to the thoughtful mind a fascinating study, but on its purely literary and scientific aspects the present is not the occasion to dwell. The birth of a university brings at once to the mind of the medical man the serious consideration of the examination standards by which the new portal to the profession is to be guarded, and also the still more vital subject of the efficiency of the training and teaching to be carried out under its direct supervision. To the layman the event is of still greater importance; the medical student of to-day becomes the physician or surgeon of to-morrow, armed with his lifelong commission in the struggle for the relief of suffering and the prevention or cure of disease, and in his hands are often placed the issues of life and of death. For these reasons every member of the community becomes interested in or involved more or less at some period of his existence in the efficiency of the institution which has presided over the training of his medical attendant. Hence no pains should be spared by the municipality or by the State to make this training as perfect as possible. Many people are apt to think, if they think at all, that the recognition of the medical man as a valuable public or national asset is an idea of modern growth, but you all remember that stirring episode in the *Iliad*, where Homer 3,000 years ago makes Idomeus exclaim, when commanding Nestor in the din of battle to fly to the relief of the wounded leech, Machaon, "when trembling Greece for her physician feared":

> Ascend thy chariot, haste with speed away;
> A wise physician, skilled our wounds to heal,
> Is more than armies to the public weal.

It behoves us as medical men periodically to review our position as regards the teaching and practical training of those desirous of joining our ranks, and upon an occasion like the present no more suitable subject could occupy our attention than a survey of the existing conditions of medical education, and a scrutiny of the requirements and modifications of these methods necessitated by the progressive march of scientific research as knowledge grows from more to more. I am confident that such a survey will also incidentally reveal evidence to satisfy the medical profession, as represented by this great Association, that our new university is fully alive to its serious responsibilities, and will be able to maintain the efficiency and to uphold the dignity of medicine in this portion of His Majesty's dominions.

The History of the Belfast Medical School.

The early history of medical teaching in any educational centre is closely identified with the growth of the facilities afforded by hospital accommodation. The first mention of any such institution in Belfast, according to the testimony of Dr. Malcolm, who more than half a century ago wrote the annals of the old General Hospital, is to be found in the appalling statement that in 1689 an epidemic raged throughout the North of Ireland, thousands of the stricken being crowded into "the great hospital at Belfast," which in the course of six months became the grave of 3,762 victims. This institution was evidently a temporary one, and probably under military control, since no further mention is found of any form of organized medical relief till the inauguration of the Belfast Charitable Society three-quarters of a century later, followed in 1792 by the establishment of the Belfast dispensary system, and a few years later by the erection of the lying-in hospital and the creation of a fever hospital, the first institution of the kind established in Ireland.

The old General Hospital, which still stands in Frederick Street, was commenced in 1815 and opened in 1817, in the midst of a terrible epidemic of typhus, the victims being carried into the new buildings, whose freshly-plastered walls were still dripping with moisture, and whose stairways had been scarcely rendered secure by the overworked carpenters and masons. During the first three years of its existence no fewer than 3,527 patients were admitted within its walls. Malcolm dwells with pride upon this period of our local history, when he states that "Belfast presented a glorious spectacle of philanthropy deserving the admiration of the world. The prosperity of her later years is doubly blessed by the reflection that when but in the infancy of her strength she drained her dearest resources to help the desolate and afflicted, to dry the orphans' and the widows' tears, to feed the hungry and clothe the naked, and rescue a myriad host from impending destruction." It was during such a period of storm and stress that we learn of the first beginnings of the Belfast Medical School, when, in 1820, at the termination of the epidemic which had stricken one-fourth of the entire population, pupils were first admitted into the wards of the hospital to study disease at the bedside and to act as clinical clerks and dressers, in accordance with a resolution passed by the committee in 1817, just before the outbreak of the pestilence. (My auditors will therefore observe that in a few years hence the Belfast Medical School will be celebrating the first centenary of its existence.) This decision was the immediate outcome of the enlightened spirit which emulated the founders of the charity, when they deposited in the first stone, laid in 1815, the inscription dedicating the building to the advancement of medical science and the relief of suffering:

> HOC NOSOCOMION
> AEGROTIS ET ARTI MEDICAE
> SACRUM.
> IN SALUTEM PUBLICAM (Etc.).

Not content with the mere admission of students to watch the practice of the medical staff in the wards, we find in 1826 that the committee were fully alive to their responsibilities, realizing that clinical instruction must be for all time an obligatory portion of the duties of the physicians and surgeons. Accordingly, a systematic course of clinical lectures was commenced in the following summer, and these were most scrupulously persevered with, the lectures being delivered in the theatre of the hospital at least once a week to the whole body of students attending the institution during the winter and summer sessions. This practice, in addition to the bedside teaching, was continued for half a century, when the clinical instruction in many of the older teaching hospitals was often limited to desultory conversation around the bedside in the wards. The first theatre lecture of this systematic course was delivered by Dr. James McDonnell, a very remarkable man—an intellectual giant in his day—whose name is associated with every movement for the advancement of medical education and for the relief of suffering.

James McDonnell.

If any one name is to be singled out from amongst the founders of the Belfast Medical School, as we look backwards at the present momentous stage of our progress, it must be that of McDonnell. To him we owe the origin of the first hospital established in Ireland for the treatment of fevers, and to him is due the honour of founding the Belfast Dispensary. Malcolm relates how that in times of the greatest apathy towards this, his favourite project, when almost unassisted by an encouraging hand, he continued to tend and watch over it with fostering care and unabated interest until it had reached a vigorous maturity. He was the leading spirit in the campaign that called into existence the Belfast General Hospital.

As an evidence of his marvellous energy and of the manysidedness of his colossal character, it may be mentioned that he was also the founder of the Natural History Museum, still standing in College Square and still doing duty as our only scientific museum for the education in natural history of the people of the city. There stands his splendid bust in marble, alongside the mummy of an early Egyptian dynasty, and some geological specimens gathered by his own hands or chiselled out by his faithful servant, Mike, who in his day enjoyed almost as large a degree of popularity as his worthy master.

In the midst of his arduous labours in the interest of humanity McDonnell found time for the pursuit of original research, and contributed valuable additions to our knowledge upon the mechanism of the circulation. His work upon the variations in the pulse under diverse physical conditions and alterations in the body posture shows the remarkable originality of a mind capable at the

same time of patiently accumulating enormous numbers of observations and rightly interpreting their physiological and clinical importance. Born in the Glens of Antrim in 1762, McDonnell graduated in Edinburgh in 1784 and lived till 1845.

Though systematic courses of lectures in anatomy, physiology, and chemistry had been delivered for some years in the Academical Institution, it was not till 1835 that the Belfast Medical School, started so modestly and unpretentiously in 1820, became firmly established. In this year (1835) chairs of surgery, midwifery, and materia medica were added to those of anatomy and physiology and chemistry, and in the following year chairs of medicine and of botany were created, all in connexion with the Belfast Academical Institution, which with the General Hospital constituted the home of the Medical School up till the establishment of the Queen's College in 1849.

The first list of professors appointed to these medical chairs contained the names of men some of whom have left an indelible impression upon the science of medicine. A brief glance at their achievements will show that from the moment of its birth the Medical School of Belfast was characterized by an originality of thought, an earnest and conscientious recognition of its high mission and an intense practical trend—qualities which stand out prominently in its subsequent history, and which still remain as its chief distinguishing features after almost a century's patient and noble service.

Thomas Andrews.

The first of these men was Thomas Andrews, born in Belfast in 1813. He practised as a physician actively and successfully, and was one of the clinical teachers in the General Hospital up till the year 1846. Though he finally abandoned the practice of medicine for the profession of the theoretical chemist, we justly claim him as one of those who laid the foundations of our Medical School upon a thoroughly scientific base. Bringing his great intellect to the elucidation of clinical problems at a time when purely scientific methods were not often applied at the bedside, he gave a high character to the clinical teaching at the hospital, and adapted his lectures on chemistry all through his long occupancy of the chair at Queen's College to the students of medicine in a practical manner only possible to a teacher highly trained in clinical methods. His discovery and demonstration of the continuity of the liquid and gaseous states, his achievements in the domain of the liquefaction of gases facilitated by his discovery of the critical point in their condensation, and his research work on the latent heat of vapours, on the heat of chemical combination, and on the qualities of ozone, have gained for him an imperishable name amongst the ranks of scientific discoverers.

At this university stage in our career I feel it my duty to pay a tribute to the remarkable foresight and fearless honesty of this great pioneer of medical education. He was the first to see clearly half a century ago that nothing but the creation of an independent northern university could meet the requirements of Belfast, and he never lost a suitable opportunity of impressing his conviction upon those responsible for the state of higher education in the country. In 1867 he published his *Studium Generale*, in which he urged powerfully the Government of the day to elevate Owens College, Manchester, to the rank of a university of the Scottish or German type, contending that the system of affiliating teaching institutions with a central university was fatal to freedom and intellectual progress, leading to "the degradation of all high mental culture whether scientific or literary."

Henry MacCormac.

The first occupant of the Chair of Medicine, created in 1836, was Dr. Henry MacCormac, father of Sir William, the late President of the London College of Surgeons. He was born n 1800 and lived till May, 1886. In a short sketch of the life of this remarkable man, published in the *Transactions of the Ulster Medical Society*, I have contrasted his mental qualities with those of Andrews. From this obituary I may be permitted to quote a few sentences. His claim to a position amongst the immortals is not that of a discoverer, of a pioneer, or of a reformer. He belongs to the rarest group of medical celebrities—MacCormac was a seer.

Many of us who knew him well are only now beginning to realize his remarkable prevision. He saw clearly, as only the seer can, things whose advent, if we yet see at all, we see through a glass darkly. Andrews found out new truths after most laborious though brilliant methods of research, not advancing one step until he had patiently satisfied himself of his data; MacCormac saw them afar off by means of some gift possessed by the few, but when he paused to reason upon the nature of the truth revealed to his subtle instinct he frequently erred. Andrews's results were the outcome of the exercise of rare reasoning powers, drawing safe conclusions from observed facts, and leading with scientific precision often to important advances in knowledge.

MacCormac in all fairness must be regarded as the father and originator of the open-air treatment of phthisis and scrofula. The unity of both diseased conditions, as well as that of the so-called white swelling in joints, was clearly realized by him at an early period in his medical career. In his work entitled *The Nature, Treatment, and Prevention of Pulmonary Consumption, and Incidentally of Scrofula*, published in 1855 in London, Paris, and Leipsig, he dwelt with almost painful repetition upon the influence of impure or rebreathed air as a predisposing and a vital cause of tuberculosis.

I am conscious that in an address dealing with the history of our Medical School and its present position as regards medical education I am travelling outside the track of my subject in dwelling upon MacCormac's claims as the man who first put into practical shape the open-air treatment of phthisis, which is to-day regarded as one of the most important advances in modern therapeutics. I do so because it brings home to us the greatness of a mind which for many years continued to stamp its original bent upon our Medical School at the most impressionable stage of its existence. It is also, unfortunately, necessary to emphasize his claims to priority, since these have been somewhat lost sight of by the prominence given to the valuable labours of Hermann Brehmer.

Two years after MacCormac had graduated and commenced the practice of his profession Brehmer was born, and when his first work appeared in Berlin in 1856, a year after MacCormac's classic was published, he was only 30 years of age, though it must be acknowledged that his researches were independent and original, since we find that he had already established a small sanatorium in Görbersdorf in 1854.

Writing in 1855 MacCormac states that: "For a long period of years I have, with an increasing fullness of conviction, discerned the undesirable results flowing from an ill-renewed atmosphere. I am perhaps the only physician of my time and standing, possibly the only one who is intimately and entirely convinced that consumption is not only when taken early very often removable, but, what is of still greater importance, that with proper means and appliances it is in every single instance preventable."

The proper means and appliances he defines in the constant formula to be used by the rich and poor—namely, to sleep with their windows largely open, and to spend as much time as possible in the open air. For those already tuberculous he insists that there shall be a ceaseless, unlimited supply, day and night, winter and summer, of pure fresh atmosphere in the apartment of the sufferer, his rule being that the chamber atmosphere must be as pure and untainted as the open air, in which the patient should spend as much time as his strength, the weather, the season, and his means will permit. These words, which I quote from his work of 1855, may be taken as containing every vital essential of the most modern method of treating this fell disease, and he emphasizes the importance of a liberal supply of highly nutritious food. It is a somewhat sad reflection that the invaluable teaching of this genius of his day required almost half a century for its full fruition. In his own time, and as early as 1855, he complained "that whilst some complied intelligently with his suggestions, others treated every direction with indifference; but to cleanse the Augean stable was a very trifle compared with the difficulties encountered by him who would unmask a single prejudice, supersede a single habit, however hurtful and pernicious to his kind."

I am addressing some individuals who are old enough to remember that upon more than one occasion Dr. MacCormac figured in the local police court, being summoned by irate patients for smashing with his walking cane the panes of glass in the windows of the sick chamber when he found these hermetically sealed against the admission of the outer air, so profound was his conviction and so consuming was the fire of his zeal.

When our great Association next honours this progressive city by its presence I feel confident that one blot upon its fair name will have disappeared—a noble statue of this great physician, I trust, shall adorn one of our leading thoroughfares, testifying to our appreciation of his genius and our gratitude for his far-reaching labours in the interest of suffering humanity. There is an excellent marble bust of this venerable sage in the art collection of the municipal library, which can supply accurate material for an ornate monument, such as has already been erected in Germany to the cherished memory of Hermann Brehmer. No more suitable time could be chosen for the launching of such a worthy project than the present, when all Ireland has been awakened by the noble crusade against tuberculosis inaugurated by Her Excellency the Countess of Aberdeen.

Alexander Gordon.

In 1847 Alexander Gordon, the originator of the radial splint and clavicular apparatus, was elected to the Chair of Surgery in the Medical School, whilst its home was under the roof of the Academical Institution, and he was transferred to the new chair established in Queen's College in 1849, upon which he continued to shed an ever-increasing lustre till his retirement in 1886, an unbroken period of almost forty years.

Gordon was a robust thinker, the bent of whose powerful mind was inventive or creative, though he was also one of the closest and most accurate observers of his day—a combination of intellectual qualities not often met with in medicine. Confining his mental activity mainly to the domain of fractures, whose etiology, pathology, and treatment he found in a condition of chaos, dominated largely by empiricism, he left it with its pathological problems and clinical signs reduced to order and its treatment based upon a purely scientific foundation. If we reflect for a moment upon the state of the literature of fractures at the lower end of the radius, the outer end of the clavicle, and at the neck of the femur, when Gordon commenced his studies it might be compared to the condition of a stagnant pool, which he transformed into a clear and crystal spring. A remarkable tribute to his genius and accuracy is afforded by the revelations of the Roentgen rays when applied to the elucidation of recent fractures, a method which has corroborated in many details his views, maintained fearlessly against a host of hostile critics. In a sense, less poetical than it may seem to some of my auditors, Gordon may be said to have forestalled the use of the *x* rays, his colleagues being often astonished at how, guided by his highly-trained sense of touch, his vision almost seemed to pierce through the skin and soft tissues to the position of the fragments in a swollen and oedematous limb. His lasting monument will be found in his unrivalled collection of fractures, to be seen in the pathological museum at Queen's University. The influence of Gordon's teaching in the class-room, in the operating theatre, and by the bedside in the wards of the old General Hospital was a powerful factor in the advance of the Medical School, nor was his power due exclusively to his originality in thought and practice; few teachers ever held a more undivided sway over the hearts of their pupils than did this fearless and honest and pure-minded surgeon.

I am addressing many of Gordon's old pupils, one of whom—our local treasurer—loves to relate a striking instance of his originality, patience, and resourcefulness in overcoming apparently insuperable difficulties. No better illustration could be given of the genius of the great surgeon who so materially assisted in the building up of our Medical School during the middle of the last century. Early in his professional career he started to build with his own hands a small sailing boat; after the final completion of his task, and not till then, did he discover that his work of art, like the famous picture of the family of the Vicar of Wakefield, was too large to be removed through the door of the apartment in which it had been created. Nothing daunted, Gordon proceeded with his own hands to cut the small vessel in two, and, after its successful removal from the loft in which he had worked at it for several months, he conceived the idea of lengthening the boat. This he successfully accomplished by the insertion of a new central portion of considerable length between the divided ends of the original, thus foreshadowing the possibility of one of the greatest feats ever performed by the modern architects of our large ocean steamers.

Peter Redfern.

From the foregoing brief sketch of a few of the many master minds which moulded the character of our local school of medicine during the critical period of its early existence, before and immediately after the establishment of the Queen's College, we are led up to the advent of the illustrious teacher whose influence more than that of any other man consolidated its varied units and created for it a reputation which placed it amongst the foremost group of teaching institutions in the United Kingdom. Professor Peter Redfern in 1860 succeeded to the Chair of Anatomy and Physiology, first established by Drummond and afterwards occupied by Hugh Carlisle. The number of medical students attending classes in Queen's College at this time, though steadily rising from its opening in 1849, had only reached the total of 116. As the fame of the anatomical department under Redfern began to travel beyond the boundaries of the North of Ireland the numbers markedly increased, so that within a period of fifteen years they had doubled, and in 1881–1882 the medical roll of the college contained the names of 364 students, whilst the hospital register showed those of some other senior men pursuing their clinical studies after having completed their collegiate courses. It will probably surprise many of my auditors to hear that for several years about this period our local school of medicine was the third largest in the United Kingdom, Edinburgh and Glasgow alone exceeding it numerically. Redfern continued to fill the double Chair of Anatomy and Physiology till 1893, when he was compelled to retire owing to the operation of the age limit, the Crown having previously extended his tenure of office beyond the regulation limit in just recognition of his exceptional services. He was succeeded in the Chair of Anatomy by Professor Symington, an anatomist of world-wide fame, so that our anatomical school has enjoyed an unbroken period of nearly half a century's pre-eminence.

It is a difficult task to do justice to the many brilliant gifts of Redfern as a teacher of anatomy. The accuracy and range of his knowledge, the fascinating lucidity of his expositions, his polished oratory, and the magnetic influence which he wielded at the dissecting table and in the class-room, are still cherished memories with his many old pupils occupying honourable positions in the profession throughout the world. But if there be a single gift or quality to which we are to attribute the secret of his successful career as a teacher or as the founder of a school of anatomists, it must not be to any of those brilliant powers just mentioned. In him the quality of *thoroughness* developed into a master passion. Every department of his anatomical work was dominated by it; with him, as regarded the teaching of anatomy and physiology, "there existed not a trifle." He might well with pardonable pride point to the success of his life work in the report of the inspectors appointed by the Medical Council when they stated their opinion that the students of Queen's College, Belfast, were taught a great deal too much of anatomy, for he strenuously held that an intimate and practical acquaintance with the details of anatomy must ever prove to be the only solid foundation upon which a progressive science of surgery and medicine can be erected. Into his well-earned leisure and retirement he carries with him the reverence and the love of all his old pupils. Looking back upon the strenuous labours of his long life to give to anatomy the first place in medical education, he may justly claim to be the real founder of our new and progressive local school of operative surgery, which bears the stamp of its great sire in its thoroughness, patient and scrupulous attention to every practical detail, and in its

conscientious devotion to the ideal of the sacredness of human life.

James Cuming.

During the long term of Redfern's occupancy of the Chair of Anatomy the Chair of Medicine was filled by James Cuming, who died in harness in 1899. Some of my auditors will remember him as President of the British Medical Association when your great organization visited Belfast in 1884—a memory, indeed, which almost overwhelms him who ventures to address you to-night. Would that Cuming's mantle, along with his memory, had fallen upon his unworthy successor to this honourable position! During his tenure of office as professor he was fortunate in occupying for thirty-four years the office of Visiting Physician to the Royal Hospital, where he was the colleague of Dr. James Smith, whose powers as a clinical teacher rarely have been excelled. As Smith's brilliancy at the bedside proved a valuable asset to the Medical School, so in those days Cuming's prowess in the class-room became soon no less generally recognized. He was the thorough master of an almost perfect literary style—the outcome of a lifelong and intimate acquaintance with the best writings in ancient and modern literature—which made his class-room expositions models of elegance, lucidity, and power.

It is doubtful if the brilliance of the *personnel* of any medical school in the United Kingdom has ever excelled that of our own during the Seventies and Eighties of the last century, when the list of our teaching staff contained such names as those of Redfern, Andrews, Gordon, Cuming, and Smith.

Recent History.

Notwithstanding, however, the brilliancy of such a galaxy, the ill-advised and disastrous legislation which effected the dissolution in 1882 of the Queen's University of Ireland, and in its stead established the examination board, known as the Royal University, immediately checked the increasing prosperity of the Belfast Medical School and at the same time retarded the growth of true academic life in Ireland outside Trinity College, Dublin. The numbers of students studying medicine at Queen's College, Belfast, showed a marked falling off, and by the year 1888, when the Royal University Act had come into full operation, these had fallen from 364 to 220, a decline corresponding to about 40 per cent.

When all allowances have been made for normal fluctuations, it is gratifying to find that of late years the position of our Medical School has been steadily, if slowly, improving, especially when we reckon the increasing percentage of senior students who continue to attend the clinical instruction in the hospitals after having finally completed their academical courses in the lecture halls of the college. So that we now find ourselves at the commencement of the university stage of our existence with an average roll of about 270 students of medicine preparing themselves for their serious life work at the different teaching institutions in our city.

Clinical Resources.

The mention of these institutions brings me to a most important point. I need not remind my hearers that large and prosperous arts and science faculties may flourish in a university established anywhere independent of the density of the population in its immediate vicinity. It is otherwise with an efficient medical faculty, as such cannot exist unless in a centre sufficiently populous to supply every hospital facility for the practical teaching of medicine and surgery and their allied specialities. It is conceivable that hospital facilities considered adequate for the wants of a medical department attached to an affiliated college might fail to meet the requirements of the medical faculty of a university, and it behoves us as a profession to inquire into the amount and nature of the clinical pabulum placed at the disposal of those students who may select our new university as the portal for their entrance into the ranks of the brotherhood of scientific medicine.

There are at the present moment upwards of 3,500 beds freely available for clinical instruction in Belfast, all of which from time to time during late years have been utilized by the students attending our Medical School.

These are made up in the following manner:

General Hospitals.—Royal Victoria Hospital, 300 beds (266 of which are at present occupied); Mater Infirmorum, 150 beds (122 of which are at present occupied); Union Hospital, 1,400 beds.

Fever Hospitals.—Purdysburn Municipal Hospital, 168 beds; Union Fever and Small-pox Hospitals, 260 beds.

Children's Hospitals.—Queen Street Hospital, 45 beds; Ulster Hospital for Women and Children, 28 beds; Throne Children's Hospital, 35 beds.

Eye, Ear, and Throat Hospitals.—Clifton Street Hospital, 35 beds; Great Victoria Street Hospital, 25 beds.

Skin Hospital.—Clifton Street Skin Hospital, 32 beds.

Maternity Hospitals.—Townsend Street, 32 beds, and Extern Maternity (about in all 900 cases yearly); Ulster Hospital, 2 beds (and 6 Gynaecological beds), with Extern Maternity (267 cases yearly).

Samaritan Hospital.—25 beds.

District Lunatic Asylum.—1,000 beds.

If we scrutinize the amount of teaching material which flows through the great extern department of the Royal Victoria Hospital annually, every case being utilized for instruction, we shall find that the number of new cases amounts to about 30,000, representing an attendance of 90,000; these, with the attendances at the externs of the Mater Infirmorum and the various special hospitals, make a huge total of about 170,000 each year.

It is obvious at a glance that the clinical and extern teaching facilities in Belfast are much more than sufficient to meet the demands of a medical faculty of the largest possible dimensions.

All these teaching institutions are of quite modern construction, and as the members of the Association will have the opportunity of seeing for themselves during the week, the Royal Victoria Hospital is probably better equipped for purposes of clinical instruction than any other teaching institution of its size in the United Kingdom. In order that you may form some idea of how this great mass of varied clinical wealth is being at present utilized, it is only necessary for me to add that outside the large staff of university professors and lecturers there are physicians and surgeons and specialists to the number of about sixty engaged actively from day to day in the teaching of medical students at the bedside and out-patient departments of the charitable institutions provided for the relief of the suffering in our city.

Laboratories.

It is unnecessary to weary you with details regarding the staff of professors and lecturers engaged in teaching at the university in the Faculty of Medicine, most of whom are already known to you by their valuable contributions to the literature of medicine. Nor is there any necessity to dwell upon the series of splendidly equipped new laboratories—physical, biological, chemical, pathological, physiological, and pharmaceutical—which, through the indefatigable exertions of Vice-Chancellor Hamilton and the munificence of our citizens, and of Sir Donald Currie, have been recently added to the university buildings.

I hope I have been able to satisfy you, from the history of our past progress and from the evidences of the amplitude of our present resources, that our new university starts upon its educative mission fully equipped for maintaining the best traditions and highest ideals of British medicine. But at the present critical stage in the progress of scientific medicine and surgery there lies, beyond the venerating of ancient tradition and the living up to stereotyped, lofty ideals of teaching, a more solemn duty imposed upon the responsible heads of every medical school and faculty of medicine in each university. This duty consists in the establishment of radical reform in the curriculum, urgently necessitated by the enormous accumulations of new scientific facts and theories; and it is at once obvious that the error of clinging to obsolete ideals is less pardonable in a young university than in an ancient medical corporation.

DEFECTS OF THE MEDICAL CURRICULUM.

This brings me to the consideration of the second part of my remarks—the present unsatisfactory state of medical education—a subject bristling with difficulties; but I shall only detain you for a brief period with the most important and pressing of these difficulties. All authorities agree that a medical curriculum which was planned forty years

ago is now entirely out of date, since at that time bacteriology was scarcely dreamt of; medicine, surgery, and gynaecology were in a rudimentary state contrasted with their present condition; sanitary science was practically non-existent, and it was then still possible to obtain a degree or diploma in medicine in less than a three years' period of study. I need not remind you that the stringent regulations of the General Medical Council of to-day render it impossible for the student of medicine to obtain his qualification to practise until after the lapse of a minimum period of five medical years, or fifty-seven months from the passing of his entrance examination and registration.

The aim of the General Medical Council in prolonging the minimum period of study from four to five years was to enable the student to devote entirely his fifth year to clinical or bedside study in medicine, surgery, and the special departments, all of which had in the meantime increased enormously in complexity and importance. But the preliminary sciences—biology, physics, chemistry, and physiology—had also grown prodigiously, with the result that the additional year has been practically swallowed up in the study of these sciences or appropriated by the specialized teachers in these subjects. (As regards the teaching of anatomy, it is obvious from the enormous development of the final or practical subjects that the prominent place justly given to this subject, whose study occupied such a large proportion of the students' time, is now no longer possible as it was in Professor Redfern's day.) The outcome of the existing regulations is that the brain of the student failing to expand in assimilative power with the growth of advancing science, we have arrived at the crux, so ably propounded by Professor Starling at the Sheffield meeting last year, of getting two pints into the one pint pot. The disastrous effect of the attempt to achieve this impossibility is seen in the rather startling fact demonstrated by the investigations of the General Medical Council, which prove that the mean or average time actually spent by the medical student in obtaining his degree or diploma is not the minimum period of fifty-seven months, but one of almost eighty-four months, just falling short of seven long years by only three weeks.

Nor is this, in my opinion, the worst evil of the many arising out of the working of the present ill-arranged curriculum of medical education. A considerable proportion of students, after failing in passing the examinations in the preliminary subjects of physics, biology, and chemistry, or before presenting themselves to the examiners in anatomy and physiology, proceed to attend the classes in the advanced or final subjects, and put in an attendance at the hospital with the one or two sets of examinations in these earlier subjects still hanging over their heads, which paralyse their capacities for obtaining anything like an efficient training in the subjects whose practice is to become their ultimate life-work.

The evil of the system which permits such a course is fully seen in the cases of those students who only succeed in passing their examination in the intermediate subjects at a stage in their career when they have completed, or almost completed, their entire academic courses and hospital attendances, with the pernicious result that their last year before qualifying is entirely devoted to the grinder or spent in cramming the undigested contents of the various textbooks to the total neglect of the invaluable mine of wealth available in the wards and the extern department of the hospitals, and which they had been merely able to tap in the preceding years of their study. After more than a quarter of a century's experience as a hospital teacher and as an examiner, embracing a practical acquaintance with the working of three universities in the United Kingdom, I feel constrained to believe that in the sending out of *men qualified immediately to enter upon the routine practice of their profession*, we are, in some respects at least, behind the results obtainable in the old days of apprenticeship.

The Reforms Necessary.

It is easier to point out the evils in the existing system of medical education than to suggest remedies for them, just as it is easy to diagnose a serious malady and often impossible to suggest a remedy for its cure. But, fortunately, the indications for treatment in the case of the more important of these evils are as clear as they are imperative. The preliminary and intermediate periods, amounting to three years out of the minimum of five years, must be shortened, and the clinical period of study must be increased if we are to train more efficiently, and turn men out of our teaching institutions properly equipped for their serious life-work. How is this readjustment of the curriculum to be accomplished? Obviously an enormous aid to it would be a compulsory examination in experimental physics and chemistry at matriculation. Such an examination could never dispense with the necessity of a complete academic course in these subjects; it would ensure the student having some knowledge of the principles of both sciences from the start of his college work, and enable the average lad easily to pass his further examinations in them within a period of twelve months from matriculation. Already the old notion that the stage of school life should be entirely devoted to purely literary studies is showing signs of yielding to the urgent pressure of modern ideals, which demand that boys must be trained to observe and reason upon the operations of the natural forces continually manifesting their presence in the world around them. Owing, however, to the present unsatisfactory arrangements for the teaching of science in the majority of the secondary schools, little relief is to be immediately expected from this method of shortening the curriculum of the preliminary subjects, though we can confidently count upon a steady improvement in the amount of elementary scientific knowledge possessed by medical candidates presenting themselves for matriculation, hence our new university has wisely permitted physics and chemistry to appear in the list of optional subjects for the entrance examination.

It is manifestly out of the question that we should be compelled to wait for the universal introduction of science teaching in the public schools before attempting to shorten the curriculum in the preliminary medical subjects. Moreover, such a consummation, however devoutly wished for, could not be expected to aid us effectually in dealing with the still more important studies of physiology and anatomy. There is a growing conviction, amounting amongst those best qualified to judge aright in this matter to a consensus of opinion, that a prolongation of the period devoted to clinical studies can only be achieved (without unduly lengthening the entire curriculum) by *a radical change in the method of teaching the entire group of preliminary and scientific subjects*.

The crux of the question centres itself in the problem of instituting the desired reform without lowering the standard of the student's knowledge in these subjects. It would be a retrograde and perhaps disastrous epoch in medical education should each of our specialized teachers begin to realize that his own particular subject was not the most important one in the curriculum; but "Art is long and Time is fleeting," and, as Sir Felix Semon reminds us, "Technique is difficult." Were I placing merely my own convictions—the outcome of years of thought and observation—before you upon the urgent necessity of reform in the teaching of physics, biology, chemistry, physiology, and anatomy *to the medical student*, I would be overwhelmed by the feeling that I was treading upon dangerous ground, beset with many snares and numerous pitfalls; but the University of London has boldly declared for reform, and has decided that the teaching of these subjects must be conducted *with due regard to their bearing upon the special requirements of the student of medicine*. A fact which ensures the success of this great revolution is the pleasing one that the campaign is being led by the teachers of these sciences.

Professor Starling, a member of the Senate of the University of London, who occupies the Jodrell Chair of Physiology in University College, made the spirit of the new regulations clear at our last Annual Meeting in Sheffield. He said we must acknowledge that the present training in science received by the medical student fails in its end and does not make him scientific. The words of this great teacher of one of the intermediate subjects are so weighty they will bear repetition when he states "that from the very commencement of his medical curriculum the work of the student should be directed; every scientific subject which he studies, whether it be chemistry, physics, or physiology, should be considered

only in its bearings on his future work as a medical man." I would venture to suggest that these words should be written in letters of gold and set up in the retiring-room of each teacher of the preliminary and intermediate subjects in our universities and medical schools, when soon we would cease to see the lamentable fiasco of the attempt to make every medical student an accomplished physicist, an analytical chemist, an experimental physiologist, a practical botanist, and an expert zoologist, as these phantoms dangle before his mental vision whilst he is already far advanced in putting in a vain and perfunctory attendance at his final classes, or whilst he is absent-mindedly sauntering about the extern department, or wandering aimlessly through the hospital corridors.

Professor Starling maintains that this "directed" method of teaching should also be applied to the subject of anatomy, where the minute knowledge which is insisted upon at the present time as regards the direction of muscular fibres, the insignificant markings on the bones or the identification of fragments of human bones can have no bearing on the student's future work, even if he is to be an operating surgeon, and that all anatomy should be learned as surgical and medical anatomy. He believes that "by such a method, far from sacrificing the scientific training of the student, we would ensure that the whole of his science studies, preliminary or intermediate, would be built up with his clinical training into one compact scientific fabric—the science of man and his diseases."

The application of the principle of this applied or directed method of teaching is planned by the Senate of the University of London to reduce the former three years of preliminary and intermediate study to two years and a half, and the new arrangements even permit of this period, under certain conditions, being further reduced to two years. It is to be noted, however, that as the clinical part of the students' course is now to be fixed at three years there is, therefore, a lengthening of the entire curriculum from the minimum of five to five and a half years. Since, however, only a small percentage of students are able to graduate under about six years, it is confidently anticipated that by the better division of work the new arrangements will really shorten the entire period of study. These new regulations have come into operation in the London University during the present month.

Beyond all shadow of doubt the time has fully come when a general and complete overhaul of the medical curriculum in all the universities and in every medical school in the United Kingdom is urgently necessary. There can also be little doubt that the reconstruction must be carried out upon the lines laid down by the University of London.

THE ATTITUDE OF THE QUEEN'S UNIVERSITY OF BELFAST.

The 20,000 members of the great British Medical Association have a right to ask what is the attitude of the Senate of the new Queen's University of Belfast regarding the programme of medical education. This is not a question whose interest is exclusively centred in the functions of the General Medical Council, since the honour, the efficiency, and the traditions of the profession are more or less influenced by the accession of each batch of medical graduates permitted to swell its ranks every spring and autumn through the new portal. Nor is it a subject of interest only to the members of the profession resident in Ireland, since a considerable proportion of our medical graduates, as in the past, will ultimately seek England, the Public Services, and our Colonies as the spheres of their future life-work.

I rejoice at being in a position to give an answer to this question which can hardly fail to prove satisfactory. We have modelled our regulations regarding the medical curriculum upon lines somewhat similar to those inaugurated by the University of London, and being an entirely new university, absolutely untrammelled by any vested teaching interests, I respectfully but confidently submit that we have been able in some ways to improve upon the new regulations laid down by that august institution without, we believe, any lowering of the recognized standards of excellence. If we have been delayed till now in the realization of our aspirations towards achieving university rank, the delay has enabled us from the start of our career to seize on the latest improvements and most advanced developments in medical education, which in recent years have been grafted upon the various and varied curricula of the older universities and long-established corporations in their attempts at keeping pace with the ever-swelling tide of medical knowledge. In the planning of our new curriculum we were most fortunate in having the aid of the supervision of one of the Commissioners of the University in Sir Donald MacAlister, the able President of the General Medical Council, in whose unique personality is combined the rarest business acumen with the most profound knowledge of the requirements of progressive medical education.

Though not presuming to state that my distinguished colleagues who teach the preliminary and intermediate subjects in the Queen's University of Belfast all go so far as to endorse in its entirety every view of the eminent professor in University College whom I have already quoted, I am justified in stating that they have always conscientiously and successfully aimed at directing the studies of the medical student from the point of view of his future serious vocation as far as our intimate connexion with the cumbrous and somewhat obsolete machinery of the now expiring Royal University permitted.

I shall not risk wearying you with minute details of the curriculum of our new university; suffice it to say that within a period of one year, consisting of one winter and one summer session, from matriculation the student can present himself for examination in all the preliminary subjects—experimental physics, chemistry (both theoretical and practical), and botany with zoology (both theoretical and practical). Within twelve months more he can complete his curriculum and examinations in anatomy and physiology, so that, if diligent and of average ability, he finds himself, before entering upon his third winter, completely free from study and from attendance upon all the classes of the preliminary and intermediate subjects, and privileged to give henceforth his undivided attention for a period of three whole years to practical clinical work and attendance upon the lectures devoted to the final subjects, whose practice is to constitute his life-work.

By this judicious arrangement of his time and study the new university has thus been enabled to change the usual three years devoted to preliminary education, and the two years into which the clinical study had been squeezed, into two years of preliminary training and three whole years of clinical work. That this result is not obtained by sacrificing any of the time formerly devoted to the teaching of these scientific subjects is evident upon glancing at the calendar, which shows that during the first two years the student is compelled to attend no fewer than sixteen separate courses of lectures, each course being of the usual length and consisting of the recognized number of lectures. The standard of excellence is maintained by arranging that the examination in each subject shall be conducted at the termination of each session, that the instruction given shall be in every possible way carried out on practical or experimental lines laid down upon the directed method already mentioned, in which the bearing of principles and facts are presented with due regard to the wants of the student and of the future practitioner of medicine.

Whilst there is thus no danger of any lowering of the standard of scientific knowledge required of the student, ample provision is made for the maintenance of his clinical training at a high level by compelling him to avail himself for a minimum period of three years of the almost unrivalled hospital facilities at the command of the new university.

The spirit of thoroughness in which our curriculum has been conceived is further demonstrated by a regulation which prohibits the student's attendance upon lectures on the final subjects until he has passed his examinations in the preliminary subjects.

In conclusion, I trust that this necessarily fragmentary sketch of the origin, development, and progress of the Belfast Medical School under the master minds of its early teachers, whose present successors are determined to uphold its traditions, and keep abreast of the tide of advancing knowledge, will carry the conviction to the minds of my auditors that a great, glorious, and free university has arisen to shower its blessings upon our province, to carry the lamp of learning, and to bear upon its wings the balm of healing to the remotest parts of our colossal Empire.

Address in Medicine

DELIVERED AT THE

SEVENTY-SEVENTH ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION,

BY

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PROGRESSIVE MEDICINE AND THE OUTLOOK ON TUBERCULOSIS.

IT is fitting that the first word this afternoon should be one expressive of my sincere thanks to the Council for the invitation with which they have honoured me to deliver the Address in Medicine at the Annual Meeting of the Association. In responding to the request, I am sensible of the responsibility no less than the compliment which is implied. As years go by, the choice of a subject does not grow easier. The immensity of the field constitutes an increasing difficulty.

Turning the matter over soon after the invitation reached me, I chanced to pass my old school, left, almost to a day, thirty-five years ago. It occurred to me that in place of attempting to project a bird's-eye view of medicine as a whole, it would be well to limit attention to one department which illustrates in striking fashion the extraordinary revolution of thought which has occurred in little more than a generation. In selecting for my theme the outlook of modern medicine on tuberculosis I make no apology for the choice. No subject in medicine has wider interest. No assembly can appraise, as this great Association can, its significance and magnitude. You know its difficulties and have to face them every day. I am influenced, too, by the fact that the Association meets this year in Ireland, where, thanks to the admirable energy of Her Excellency the Vice-Reine and the generous co-operation of the medical profession, a great anti-tuberculosis movement is in progress. Nor can I forget the striking part played by the city of Belfast in times gone by through the remarkable labours and writings of Dr. Henry MacCormac, and in more recent times by those who are yet with us.

RETROSPECTIVE.

Let me try rapidly to picture the change which has come over the spirit of our dreams. Recall the general attitude towards tuberculosis of thirty-five years ago. Recall the atmosphere of ignorance and helplessness and hopelessness. Then turn to the period I have selected, and view the bounding, surging movement which has compelled the great march forwards.

To give greater precision, let me divide the thirty-five years into five lesser periods of seven years each.

The first period (1875–81) was one of darkness and fog. The great work of Laënnec and Louis was threatened with eclipse. The unity and specificity of the tuberculous process were obscured. Terminology was vague and inexact. Tuberculosis of the lung was labelled catarrhal pneumonia, with three stages of congestion, consolidation, and excavation. A "neglected cold" played a chief causal rôle. The hopelessness of therapeutics was depressing. Here and there appeared glimmering of light. Experimental research on the earlier lines of Villemin presaged the dawn.

The commencement of the second period (1882–88) saw the advent of daylight. Koch's announcement to the *Physiologische Gesellschaft* of Berlin, on March 24th, 1882, came like sunrise to a sleeping city. The discovery of the tubercle bacillus inaugurated a time of Sturm und Drang—the strife of critics and opposing doctrines. The tremendous significance of the brilliant discovery could not be realized at once. Time was needed for the correction and adjustment of older views. Research had to develop on fresh lines. The character, life-history, properties, and morbific activity of the tubercle bacillus were studied by a host of observers. The conception came gradually—not an absolutely new conception indeed—that tuberculosis, notably pulmonary tuberculosis, must be given a place among infective diseases. The old feeling after truth, which led the Italian and Spaniard almost a century before to pass enactments prescribing preventive measures against tuberculosis, was found to rest on scientific fact. Gradually there emerged indications of a larger outlook towards prevention.

During the third period (1889–95) observation and research were pursued with increasing exactness and better result. The period is remarkable because of two events: (1) The announcement of tuberculin; (2) the more general adoption of the doctrine of aëro-therapy, a doctrine promulgated long ago, but little apprehended or applied. The intimation by Koch in 1890 that he had obtained in tuberculin an agent of specific value in the diagnosis and treatment of tuberculosis was an event only second in importance to the announcement of the bacillus itself. It needed years, however, to enforce the conviction that tuberculin, which was received with mingled criticism and almost hooted from the stage, embodied a principle of greatest significance to medicine.

The fourth period (1896–1902) saw the more rapid spread of antituberculosis activity throughout the civilized world—the increasing determination of scientific, social, and, to some extent, official, effort towards the tuberculosis problem. While experimental research was pursued with keenness, men's minds were awakened to the large issues of preventive medicine. This was the time of more general development of the Sanatorium. The Tuberculosis Dispensary, inaugurated in the Eighties as a centre of antituberculosis operations, aroused attention. Notification was admitted as a practical measure. Tuberculosis associations were founded in different centres. Conferences and congresses began to be held. The commencement of the twentieth century found the subject pretty much in the air.

The fifth and last period of seven years (1903–9) is remarkable for the development of larger views on immunization and the appearance of the opsonic doctrine and its application to therapeusis as a means of directing vaccine-therapy. Diagnosis has been made more exact by various adaptations of tuberculin. This is also the period of more rapid evolution of preventive measures. The physician and the sanitarian have joined hands, and have been aided not a little by thoughtful social workers who recognize the vast part played by tuberculosis as an agent of national devitalization and impoverishment. The nations of the world are falling into line. Repeated international congresses have borne excellent fruit. With exchange of ideas endeavour has become better directed and more uniform. The significance of organization and co-ordination of effort is gradually being appreciated. Administrative control is taking practical shape. And so the great work goes on.

PRESENT POSITION AND OUTLOOK.

To-day I invite you to pause for a brief hour and think what the discovery of the tubercle bacillus has meant to medicine and to the world, and what it may mean. Nor deem this a trite or exhausted subject. I hope to succeed in showing that, great as have been the advances already made, still greater are the possibilities which the discovery implies.

Consider the matter more closely. The determination of the essential cause has called order out of chaos. It has thrown to the winds the vague, nebulous talk of dualism which long perplexed medical science. Tuberculosis, however various its aspects, is one indivisible entity, dependent essentially on the presence and activity of one organism. Behind the changing pathological and clinical appearances the tubercle bacillus remains single and constant.

NOMENCLATURE AND CLASSIFICATION.

The discovery has taught us to call things by their proper names. In presence of tuberculous infection, mysterious inflammations, formerly named in misleading fashion pneumonia, bronchopneumonia, pleurisy, bronchitis, etc., are getting their proper place. We are facing the fact that tuberculosis is vastly more common and infinitely more various in manifestation than we dreamt of in years gone by.

We have come to realize that when tuberculous disease

is present in an organ, be it in the lungs or elsewhere, we have to deal with a specific disease the local manifestation of which may be comparatively unimportant compared with the systemic effects. Commonplace as the view may appear, it can hardly be emphasized too much. It is lost sight of sometimes when it should be accentuated most. Take, for example, the classification of pulmonary tuberculosis recently adopted by the International Conference of Tuberculosis at Vienna in 1907, which embodies what was previously known as Turban's classification. This recognizes three stages of pulmonary tuberculosis, which I recall according to the official description:—

Stage I.—Disease of slight severity, limited to small areas of one lobe, which, for example, when affecting the apices bilaterally, does not extend beyond the spine of the scapula and the clavicle, or, unilaterally, does not extend below the second rib anteriorly.

Stage II.—Disease of slight severity, more extensive than Stage I, affecting at most an entire lobe, or of greater severity extending at most over half a lobe.

Stage III.—Disease of greater extent than just defined and all cases with considerable cavities.

It seems a pity that the stages which this classification admits are solely stages of anatomical change within the lung. Little cognizance is taken of systemic involvement. Yet, after all, the prognosis and treatment of a given case are governed by the degree of systemic intoxication rather than by the extent of local change. For on the one hand, the local change may be extensive, and yet the prognosis remain comparatively good because of the absence of systemic disturbance. On the other hand, the local lesion may be relatively slight and yet the prognosis be serious because of the disproportionate degree of intoxication. On that account I prefer a classification which gives approximately just expression to both the local and the systemic disturbance. Adopting the symbol L for the local or lung lesion, and admitting three stages as in the classification just referred to, we may speak of L_1, L_2, L_3. To express systemic involvement, I use the symbol S. By the simple device of combining variously capital or small letters, the diagnosis can be expressed with reasonable accuracy. Thus, taking an early process in the lung, we can state the various possibilities as L_1s, that is, an early local process with relatively slight systemic disturbance, or L_1S, that is, an early local process with equivalent systemic disturbance, or l_1S, that is, an early local process with excessive systemic disturbance. It matters not what degree of local change be present, whether L_1 or L_2 or L_3, the same principle of classification is available. Thus L_3s indicates a case of extensive lung disorder with vomica formation, but comparatively slight systemic intoxication, while l_2S indicates a case where, with the local process one of infiltration only, systemic intoxication is excessive. The presence of complications is indicated by the symbol + followed by the lesion, for example, l_2S + ent. tub., that is, the case just described with complicating tuberculous enteritis.

Such a classification not only gives greater fullness and exactness to the recorded diagnosis, but also conveys a summary of prognosis. This is important. It should be a chief aim of prognosis to estimate the degree of systemic disturbance in relation to varying local lesions. This means not the examination of the lungs only, but of every organ, and a complete review of the patient's condition. A comprehensive determination of this kind with a view to prognosis and treatment emphasizes the fallacy of much of the present-day diagnosis, which is made to rest chiefly, if not entirely, on the bacteriological examination of the patient's discharge.

Diagnosis and Prognosis.

The discovery of the tubercle bacillus in the patient's expectoration affords bacteriological proof of tuberculosis. This is incontestable evidence. It is the evidence which we seek for in dead tissues. But from the physician's point of view much more is needed. In the first place, if he wait for the appearance of the tubercle bacillus in the discharge, he waits too long. The occurrence of the bacillus in the expectoration signifies a tuberculous invasion which has made considerable advance. The disease has progressed far before it takes the form of a discharging lesion. The physician's duty is to conclude the diagnosis prior to this.

Further, the detection of the bacillus in the discharge or the determination, by one or other of the more recent bacteriological tests, that the patient is tuberculous, yields but a partial diagnosis from the standpoint of prognosis. Unfortunately the present tendency is to say, on the one hand: Given no tubercle bacillus in the discharge, we may not diagnose the condition as tuberculosis; and, again: Given the bacillus in the discharge, the diagnosis is one of tuberculosis, and there's an end of it. But *quâ* prognosis, much more is needed.

In respect of early diagnosis and the completer diagnosis on which are based both prognosis and treatment, the physician has methods of determination beyond those of the laboratory, which can be refined and perfected only by careful, patient, and prolonged study at the bedside. The physician, while making use of all bacteriological advances as aids to diagnosis, cannot afford to forget that there is evidence imprinted on the patient's every tissue and organ, which when read by the seeing eye and interpreted by the trained senses, gives completeness of view otherwise unattainable. The physician is primarily the thoughtful observer of Nature. Familiar with the features of healthy activity as these manifest themselves in every organ, he becomes quick, by repeated observation of disease, to catch the first slight deviations which indicate that the physiological has become the pathological. In illustration, let me cite a simple case:

Some years ago I was asked to see a young lady suffering from pulmonary tuberculosis, who was extremely ill, indeed almost moribund. There was little to be done. In passing downstairs from the sick-room, I happened to meet a bright girl with whom I exchanged a few words. After expressing an unfavourable opinion regarding the patient, I ventured to ask who the girl was whom I had met on the staircase. To the reply that it was the patient's younger sister, I suggested we should direct treatment to her. The immediate rejoinder was: "But there is nothing wrong with her." I heard no more of her for twenty months, when I was asked to see her on account of pulmonary tuberculosis. The doctor in attendance reminded me of the previous incident, and indicated that the girl had "kept well" till a fortnight ago, when cough appeared, and a specimen of expectoration sent to the laboratory revealed the presence of tubercle bacilli. Examination of the patient showed extensive bilateral disease, and pronounced systemic disturbance. Months of much moment to the patient had slipped by, during which the disease was slowly making way. It was only when the lesion came to be a discharging one that the suggested diagnosis of twenty months before was seriously considered. In spite of speedy adoption of treatment, and a brave fight on the part of the patient, she died. Had treatment been instituted at the earlier date, the unfortunate issue would probably not have occurred. Such incidents are of frequent occurrence.

The extent to which faith is limited to the bacillary diagnosis is serious. I have before me a letter from a bacteriologist who, at the request of a throat specialist, had received a specimen of sputum from a patient in whom, to my knowledge, the diagnosis of pulmonary tuberculosis had been made six years ago, and who had done remarkably well. The writer reports that he found the patient discharging "a very large number of tubercle bacilli, which indicated that it was an advanced and progressive case of phthisis but still not hopeless." It is clear that neither the unfavourable verdict nor the subsequent reassurance, coming from one who had never seen the patient, can be admitted as of much value.

What I am anxious to urge is, on the one hand, that the bacteriological diagnosis comes frequently too late, and in any case should not be waited for without an estimate of the results of every other method of examination, and, on the other hand, that the bacteriological diagnosis is much too narrow an issue on which to base prognosis in a given case. While, broadly speaking, the presence of a large number of tubercle bacilli in the discharge points to a considerable focus of disease, the actual number *per se* is not a sufficient gauge of the stage or gravity of the case. To the trained clinical eye there are a score of other points which must be appraised in order that the diagnosis may be of prognostic value.

Tuberculin in Diagnosis.

Pleading as I am for exactness in the determination and interpretation of clinical appearances, I am not forgetful of the material assistance afforded in the early diagnosis by the discovery of tuberculin. The subcutaneous injection of tuberculin, as first proposed by Koch, is occasionally of much value. There occur every now and again in the experience of the best clinician cases where the

symptoms, physical signs, and clinical course are difficult of interpretation—cases where the possible presence of tuberculous disease means too much to the patient to justify doubt or delay. In such instances the use of tuberculin is clearly indicated. Resting on an opinion formed by a persistent use of the method since its first introduction, I can testify to its value and its freedom from risk. There are also available more recent adaptations of tuberculin diagnosis, which include the cutaneous, percutaneous, and ophthalmic tests. These have a wide range of application. Perhaps the most generally serviceable is the cutaneous. The percutaneous is a simple modification of this, in which the skin remains unbroken. The ophthalmic or conjunctival has similar application where there is no contraindication because of existing eye disease.

These methods, which are readily carried out, yield convincing evidence as to the presence or absence of tuberculosis in the given *individual*. They do not, of course, afford certain proof—although the presumption may be present—that the *particular symptoms or lesion* under consideration are of tuberculous origin. They justify the diagnosis that the individual has tuberculosis, while they leave the localization of the lesion to other means. In this sense the cutaneous and ophthalmic tests are commonly less conclusive than the subcutaneous. On the other hand, the former are often preferable. Thus they may be preferred when the point to be determined is the general one, Is the patient tuberculous? They may be preferred—especially the cutaneous—when the hypodermic method might be objected to either by the patient or his friends or when the character of the lesion makes subcutaneous injection undesirable. The external methods—and in most cases the cutaneous—are preferable when an extensive test involving many individuals is undertaken, as in a public institution, for the purpose of determining the amount of tuberculosis present. In respect of all these tests it is unfortunate that, while they commonly indicate with remarkable certainty the existence of a tuberculous lesion, they fail to discriminate, so far as present methods go, between lesions of comparatively old and quiescent character and commencing lesions of aggressive nature. They fail also to detect some of the worst cases, notably disease rapidly advancing towards a fatal termination.

ETIOLOGICAL RELATIONSHIPS OF CHILDHOOD.

From the larger point of view we are much indebted to tuberculin for convincing evidence of the vast frequency of tuberculosis. Of paramount importance is the conclusive testimony it bears as to the frequent occurrence of tuberculosis in children. Its use has confirmed in remarkable fashion estimates, concluded on other clinical grounds, which have sometimes been criticized as excessive. Thus conclusions published by me, which showed that of groups of school children from 6 to 14 years of age no fewer than 30 per cent. presented stigmata of tuberculosis, have been thought extreme. Yet observations by means of the cutaneous test go to show that such conclusions are within the mark. Much evidence is accumulating on the point. In the absence of investigations on a large scale from London or other great city at home, I cite recent Continental observations.

Statistics from the city of Vienna are available, which deal with large numbers of children. They include (A) cases examined *post mortem* and (B) cases tested with tuberculin. The figures are as follows:—

(A) *Post mortem* results (Sluka and Hamburger):
Of 848 cases dying from all sorts of causes, 335 were found to be uberculous, that is, circa 40 per cent.
Arranging them in six groups according to age:

Group I (1st year of life)	showed	15	per cent. tuberculous
II (2nd ,,)	,,	40	,, ,,
III (3rd to 4th yr.)	,,	60	,, ,,
IV (5th to 6th yr.)	,,	56	,, ,,
V (7th to 10th yr.)	,,	63	,, ,,
VI (11th to 14th yr.)	,,	70	,, ,,

(B) Tuberculin results:
(*a*) Of 988 consecutive patients coming to hospital and tested by cutaneous method (von Pirquet):

Group I	(as above)	showed	16	per cent.	positive.
II	,, ,,	,,	24	,,	,,
III	,, ,,	,,	37	,,	,,
IV	,, ,,	,,	37	,,	,,
V	,, ,,	,,	57	,,	,,
VI	,, ,,	,,	68	,,	,,

(*b*) Of 509 consecutive patients in hospital for diphtheria, scarlet fever, and other acute infections (except measles), tested cutaneously, and in case of doubt subcutaneously (Monti and Hamburger), 271 were positive, that is, circa 50 per cent. Or, taking them in groups:

Of Group I (as above)	undetermined.			
,, II	,,	9	per cent.	were positive
,, III	,,	27	,,	,,
,, IV	,,	51	,,	,,
,, V	,,	71	,,	,,
,, VI	,,	94	,,	,,

It is to be kept in view that the figures quoted are based on investigations among children of the poorer classes, and refer to tuberculous *infection* and not to clinically determinable *illness* merely. For the present we are concerned with the actual distribution of tuberculosis throughout large communities. It is also to be understood that the conditions pertaining in Vienna and correspondingly the incidence of tuberculosis are not strictly comparable with those in our own large towns.

None the less, collective evidence from many sources emphasizes the view that it is especially in childhood that the tuberculous seed is sown. Tuberculosis is an all-pervading blight. Its occurrence would seem traceable largely to the nursery, or at least to the period of childhood. The German saying, "Am Ende hat Jedermann ein bischen Tuberkulose," might in the light of modern observation almost read, "Tuberculosis is commonly contracted in childhood."

The significance of this can hardly be exaggerated. The frequency of tuberculous infection in childhood explains much that previously gave rise to endless speculation. If we modify slightly the doctrine of heredity which formerly held sway and ally it with that of the survival of the fittest, we shall come near to the truth. Heredity means not transmission of the disease, but of tissues which are extra liable and extra vulnerable. The widespread distribution of the disease and unhealthy environment mean the probability of infection in less or greater degree. The more liable tissue becomes more certainly infected, and the more vulnerable tissue suffers in greater degree. The less liable may escape altogether, and the less vulnerable resist successfully.

If the conclusion which seems forced on us be correct, that in a majority of instances infection occurs in childhood, we are faced with a problem of totally different complexion and proportions from that which was previously conceived. To solve it we must search for causal conditions in the life of the child. It is impossible on the present occasion to condescend on details as to channels of infection. Suffice it to say that prolonged observation has led me to conclude that inoculation may occur by way of the mucous passages at any point from the mouth and nostril downwards. I believe this is especially frequent in the naso-pharyngeal, tonsillar, and faucial regions. From the point of entrance there is usually a slow dissemination by way of the lymphatic circulation. The factors essential to invasion are devitalization of the tissues and the presence of the bacillus.

In answer to the query, Where does the bacillus come from? it is natural and tempting to trace infection in childhood chiefly to infected milk supply. But do the facts bear this out? Tuberculin tests show that tuberculosis is relatively less common during the first two years—when, if milk were the chief agent, we might expect it to be greater—and evidence of infection becomes progressively common as age advances. The facts of comparative ethnology tend also to qualify the view. For tuberculosis flourishes abundantly in not a few countries where feeding with milk from cows or other animals appears unknown. I am assured by numerous competent observers abroad that tuberculosis abounds in districts where the use of milk for alimentation is unknown. The extent to which tuberculosis depends on the ingestion of bacillus-containing milk remains, therefore, a moot point.

It seems rather as if some other cause were operative—a cause common to home and school life. The incidence of pulmonary tuberculosis shows a steady increase as the child grows. The ratio of increase is greater about the time the child goes to school. One morbid influence seems constant throughout the progressive stages of the child's life, namely, the comparative withdrawal of the developing organism from the natural and healthful stimulus of the open air. The facts appear to point conclusively to

the relatively airless conditions of home and school life as a chief etiological factor. This view is corroborated by observations made under the system of domiciliary visitation which forms a leading feature in the activity of the Victoria Dispensary for Consumption. Under the system the home of every patient coming to the dispensary is systematically inspected by nurse and doctor. In addition to inspecting the house the doctor holds a "march past" of the household, so that other cases of infection may be detected as early as possible. The frequency with which several members of a household—it may be half a dozen children—are found to be concurrently affected is striking. There is a remarkable coincidence between the airlessness of the house and the frequency of disease. Sometimes every member of the family presents stigmata of the disease. Such homes are veritable "nests" of tuberculosis.

In this connexion I venture the suggestion that it is to the extensive distribution of tuberculosis in childhood that we must trace the frequency of the graver symptoms and complications which occur in such infections as measles and whooping-cough. The more carefully we have regard to complete diagnosis, the more frequently will it be found that tuberculosis lurks behind the more acute illness. It is often stated that pulmonary tuberculosis occurs as a *sequela* of measles and other infections. Are there not grounds rather for believing that such infections tend to assume the graver character because of *pre-existing* tuberculosis? Do not such infections frequently rouse into activity a pre-existing tuberculosis? Tuberculosis is, I believe, to be credited with a much greater proportion of mortality in childhood than is usually conceived, and is largely responsible for the aggravated manifestations of otherwise simple ailments.

Tuberculosis in Communities.

Turning to the occurrence of tuberculosis in the community generally, I may recall calculations made a number of years ago as to the ratio between mortality and incidence of pulmonary tuberculosis. These led me to the conclusion that the mortality within a district might safely be multiplied by ten to express the number of cases of pulmonary tuberculosis worthy of medical surveillance, and I suggested that this number might be further increased without exaggeration. Subsequent observations have confirmed the belief that the estimate, far from being excessive, errs probably on the low side. The results obtained by means of the newer methods of diagnosis are strongly corroborative. If we reckon not merely patients who are so evidently ill as to require medical supervision, but the entire number of persons who give a positive reaction to tuberculin, the sum total is vastly greater.

Such facts have a very practical bearing on prevention and treatment. They testify to the tremendous grip which tuberculosis has obtained on the race and its immense ramifications throughout the social organization. They emphasize the significance of measures directed to the better sanitation of dwellings and schools as well as workshops, offices, etc. They illuminate and illustrate the housing question—using the phrase in the widest sense—as nothing else could do. No less do they accentuate the great need which exists for an organized and co-ordinated plan of operations in relation to tuberculosis as it occurs in our social communities. With so great a mass of tuberculous material to handle we cannot afford merely to wait and treat individual patients as they happen to present themselves at out-patient departments. We must search for them in their hiding places. We must track them to their breeding grounds.

Towards this end *concerted action* is desirable. We must obtain all available information as to the distribution and spread of the disease with a view to its prevention and eradication. This is the justification of notification. Much more is needed. Approaching the matter from the standpoint of the pathologist, I was led some twenty-two years ago to propose the establishment of the Consumption Dispensary as a central institution which should concern itself with every aspect of the tuberculosis problem, and would have regard especially to the patient's home conditions in relation to his own treatment and the limitation of the spread of the disease throughout the household. By the continuous activities of the tuberculosis dispensary and the system of domiciliary visitation to which I have alluded, there is maintained a ceaseless campaign and successful raid on the disease. If properly worked, there will be accumulated a remarkable mass of information regarding tuberculosis in the given district. Thus, in Edinburgh, the activities of the Consumption Dispensary have tended to the completion of a satisfactory plan of antituberculosis operations, which includes compulsory notification, a sanatorium for early cases with approximately 100 beds, a working colony, a hospital for advanced and dying cases with 62 beds, in addition to suitable and extensive accommodation for patients of the pauper class under the Poor Law authorities. The several factors in the scheme are on terms of intimate relationship and co-operation. The scheme is closely related to the Municipality through the medical officer of health, and by many links to the Charity Organization Society and other such agencies. As illustration of the significance to the community of such concerted action, it is noteworthy that while during the first ten years of the development of the scheme, when its activities were more restricted, the mortality from pulmonary tuberculosis in Edinburgh fell 12·8 per cent., in the succeeding ten years (1897–1906) the mortality further fell to the extent of 42·1 per cent. Without tracing this remarkable drop entirely to the activities of the system, it seems fair to interpret these as chiefly contributory to the result.

The further goal towards which all effort is directed is the recognition by the State and the various administrative bodies concerned that tuberculosis is a social evil, the existence and effects of which call for consideration and active interference. The change which has come over the official attitude of the country is eminently satisfactory. So far as England is concerned, the most significant indication is found in the fact that last year there was issued by the Local Government Board an order calling for the notification of all cases of pulmonary tuberculosis occurring in patients under the Poor Law. In Scotland an advanced position was taken some years ago. In a Memorandum dated March 10th, 1906, pulmonary phthisis was declared by the Local Government Board of that country to be an infective disease within the meaning of the Public Health Act, and the various elements in what may be described as the Edinburgh Scheme were recommended as collectively forming the basis of a national scheme of antituberculosis measures. Ireland, thanks largely to the attitude adopted by her Local Government Board, is in possession of a Tuberculosis Prevention Act which became effective on the first of the present month, and which gives her potentially the entire machinery for a complete and effectual campaign. These are striking indications of ripening opinion. Taken along with the wider public health enactments which have been a conspicuous feature of recent legislation, they afford a gratifying promise for the future.

Therapeutic.

Many other points occur on which I am tempted to linger. Let me invite you to consider briefly two aspects of treatment. The first of these has no direct relationship with the tubercle bacillus—namely, aëro-therapy. The second depends essentially on the bacillus—is, indeed, the outcome of our growing acquaintance with that and other organisms. I refer to tuberculin and vaccine-therapy.

The great quarry of scientific truth from which throughout the ages there has been reared the magnificent temple of Medicine contains yet untold wealth of building material. Of this in large part we can only dream. Sleeping or waking, such dreams vary with the dreamer. Apart from the mighty boulders still silently resting on their eternal bedrock, there may be found, lying loose within the quarry or at its edge, heaps of splendid building material which have not yet received a place in the noble pile. There are many reasons why this is so. Sometimes it would seem the ill luck of the worker, who is called to another sphere just as he was bringing to view the block fitted to be a column or pillar in the temple. Sometimes the mass is too great for one worker or even for one age to raise. Sometimes it may be the fault of the worker, eager, restless, too desirous to see results rather than patiently to work. Perchance it is the fault of fellow-workers who cannot realize the nature of the find—who cannot recognize the quality and distinction of the mineral, who cannot

appraise its priceless value nor the rare colour of the stone.

My thoughts turn in this direction because of Belfast, and because of Henry MacCormac, and because of the misunderstanding which still lingers round the great truth he sought to establish, with the result that what ought to be a mighty bearing column is still lightly discussed as almost of doubtful purpose in the edifice.

THE GREAT PRINCIPLE OF AËRO-THERAPY.

Although, as the cynic may remind me, the great principle of aëro-therapy dates from the Garden of Eden, somehow as time went on the principle ceased to be followed save by a few. The experience of the past two decades has greatly influenced the medical attitude towards aëro-therapy. Its methods have gained an assured place in therapeutics. We have come to recognize from a comparative study of pulmonary tuberculosis as it occurs throughout the world, that it is not a disease of any one latitude or climate. The fallacy, which in the popular, and perhaps also in the medical, mind associated consumption particularly with these islands has been exposed. The relative infrequency of consumption in England and Scotland as contrasted with other European countries has not only contributed to dissipate ignorance as to its etiology, but tended actually to a reversal of the conception that climatic conditions has to do with its production. The pioneer work of the earlier sanatoriums in this country led rapidly and certainly to the conclusion that open-air treatment was a method of universal application. Facts and statistics have speedily accumulated which go to show that tuberculosis results chiefly from the exclusion or insufficient supply of fresh air in the dwelling-room, work-room, and other haunts of man, and, further, that in proportion as the supply of air and sunlight is improved, under better conditions of sanitation, there follows a corresponding reduction in the mortality from tuberculosis. Not only this, but there is abundant evidence that open-air treatment is successful in proportion as it is carried out completely, in winter no less than in summer. Indeed, there is not wanting support for the belief that the results obtained under open-air treatment are fully better during the colder than the warmer months of the year.

Nor is it too much to contend, that the application o aëro-therapy has completely changed the clinical features of pulmonary tuberculosis. Under proper aëro-therapeutic conditions, the classic type of disease as described from generation to generation in the past has ceased to be. The aspect of the patient is metamorphosed. The delicate pink and white colouring or the hectic blush usually described is frequently replaced by a ruddy look. Pyrexia disappears marvellously. Within a short time, temperatures which have been swinging for weeks tend to become normal. The rapid pulse is slowed, and blood pressure increased. Night sweating is practically unknown. Cough quickly lessens or disappears, and expectoration is correspondingly reduced. Appetite picks up and digestive disabilities disappear. Lassitude and disinclination for effort, physical and mental, pass away, and the patient becomes once more keen and fit for neuro-muscular expenditure. His entire physiology returns to a higher plane. The classic description of the consumptive, read alongside of patients under treatment on aëro-therapeutic lines, sounds exaggerated and false.

The brilliant results achieved under aëro-therapy in the arrest of what seemed hopeless conditions of disease afford encouragement for the wider adoption of open-air measures with a view to prevention. It is remarkable how far prevention lags behind treatment. What is capable of effecting the cure of definite tuberculosis is *a fortiori* capable of preventing its appearance. We admit this in theory, but the practical application is half-hearted and faltering. This is the more remarkable because we have a constant object lesson in the relatively low place which England and Scotland occupy in relation to tuberculosis mortality as compared with other nations. There is little doubt that this finds its explanation in chief part in the habits of our people, their love of outdoor sports and the like, and in the continuous and steady amelioration of housing conditions from successive enactments which have been passed during three-quarters of a century.

The history of medicine abundantly shows that where therapeutic procedure is based on physiology, the methods of application are simple and direct. This is conspicuously true of aëro-therapy. The accumulated experience of recent years has established three general propositions of much significance.

1. Aëro-therapy is a measure of universal applicability in all lands. There is no climate specially favourable for its practice. The advantage of brighter, warmer climates lies chiefly in the greater facility and comfort with which it may be carried out. Open-air treatment seems more natural when the sun is shining. On the other hand, in warmer climates there are inherent difficulties to the carrying out of the system all the year round. It may be doubted whether any climate, taken as a whole, is more suitable for the purpose than that of the United Kingdom.

2. Aëro-therapy is of universal applicability in every sick-room. It is not a special system to be practised in special institutions. It is utilizable in the bedroom of the ordinary dwelling as certainly as it is in the ward of a special hospital. Although more conveniently carried out in the sanatorium, it may be used no less completely and effectively in the ordinary dwelling house, if only the principle of application be rightly apprehended. There is no need to send patients to sanatoriums *merely* on this account. Sanatoriums have their uses. They are serviceable, especially in the interest of patients who, for one reason or another, cannot have a proper régime maintained in their own home. But even the poorest—and still more easily the well-off patient—can enjoy the advantages of aëro-therapy at home.

This is a significant admission, because it carries with it the further important conclusion that a sanatorium does not require, in order to be effective, to be erected in an inaccessible place, removed, it may be, a hundred miles from the centre of population which it especially serves. Many mistakes have been made in regard to this in the past. Much unnecessary expenditure and inconvenience have been caused. If a sanatorium is established for the poorer classes of a town it is eminently desirable that, while it should be removed to a sufficient distance to protect it from smoke and dust, it should still be sufficiently under the eye of the citizens to constitute from day to day an object lesson in the application of aëro-therapy.

3. Aëro-therapy, while especially indicated in tuberculosis, is a measure of widest applicability in relation to disease. It is a mighty principle of treatment both from the curative and from the preventive point of view. I have already alluded to the remarkable change in type which occurs in pulmonary tuberculosis when treated on open-air principles. No less striking is the absence of complications as compared with their frequency under the protective method. Throughout fifteen years of constant experience of aëro-therapy in the Royal Victoria Hospital for Consumption, I have watched closely for the occurrence of pneumonia, or pleurisy, or bronchitis, and have failed to meet them. Their absence from a considerable community, all of whom have already weakened lungs, is singular, and merits reflection. Further, there has never been an outbreak of epidemic disease, and it is the rarest occurrence to have a member of the staff off duty even for a day. It would seem, indeed, that the application of aëro-therapy is without limits, provided reasonable care be taken to preserve the warmth of the body. We are only awaking to the full significance of this great cleansing, antidotal, and vitalizing principle whose applicability in medicine is no less far-reaching than that of asepsis in surgery. It was a far-seeing, clear-visioned poet who wrote:

> Air, air, fresh life-blood, thin and searching air,
> The clear, dear breath of God that loveth us.
>
> * * * * * * *
>
> Water is beautiful, but not like air.

The progress of surgery within recent times is some times contrasted with that of medicine to the disadvantage of the latter. It is worthy of note that the remarkable developments of modern surgery are the result of the application of one or two great principles which may be described as medical rather than surgical. The two principles which have revolutionized surgery, namely, anaesthesia and asepsis, have allowed the surgeon to proceed fearlessly, leisurely, and without risk of interruption or complication, to the completion of operations which

otherwise were impossible. In like manner, it seems to me, the adoption of aëro-therapy as a basis of treatment brings the physician to a vantage ground in respect of therapeutic possibilities from which he is debarred under the more protective system.

Let me urge that to place a patient suffering from pulmonary tuberculosis under the influence of aëro-therapy is not synonymous with the adoption of expectant treatment. Aëro-therapy is, in the truest sense, a therapeutic measure which has been found capable of giving the best results. Need I recall the classic experiment of Trudeau, who inoculated a number of rabbits with tubercle and then allowed one half to run about in the open air while the other half were penned in darkened airless hutches? Of the two groups the former successfully resisted the effects of inoculation while the other half succumbed. Aëro-therapy is no vague trusting to time and chance. It is the definite utilization of one of Nature's elementary principles. It is the deliberate attempt at increased oxygenation. If, under conditions of imperfect aëration, the red cells fail to fulfil their office of oxygen carriers to the tissues with resulting anaemia, chlorosis, etc., it may well be that the withdrawal of a sufficiency of air influences, in like measure, the white blood corpuscles in a way not yet determined. We do not know what effect oxygen has on the white blood corpuscle. From the point of view of modern haematology, may the phagocytic appetite of the leucocyte not be whetted by aëro-therapy? Or, on the other hand, may not some influence be exerted on the invading organisms which makes them a readier prey to the leucocyte? Certain it is, that comparatively rapidly under the influence of aëro-therapy the complicated clinical picture which we are in the habit of tracing to mixed infection commonly clears up and an important step towards cure is achieved.

HENRY MACCORMAC: PIONEER.

It is to the everlasting credit of Henry MacCormac that he had a clear prevision of so much of this, and had the courage and determination to state his belief in no uncertain way, notwithstanding captious criticism and even ridicule. A few sentences quoted from different pages of his work on consumption will illustrate sufficiently his width of view. To those who do not happen to know the work I commend the volume, which was published in London in 1865. The fact that his therapeutic views are associated with an etiological conception of tubercle which was fallacious does not detract from the correctness of the former. From start to finish, the volume contains pregnant statements of remarkably striking character. Thus:

> Tubercle is simply impossible in the case of persons who respire habitually air not prerespired and who sleep in an atmosphere incessantly renewed. . . . Pure respiration is the law of life, impure respiration is the law of death. . . . It was once a general prepossession that taking cold, that damp night air, forsooth, was a source—the source indeed—of consumption, but this is a great error. The coldest, dampest air does not, never did since the world begun, and never will, induce consumption. . . . If a person will but occupy three or four hours daily with active open-air life and effort, and sleep in a chamber the windows of which shall be pulled down winter and summer the night through, he may bid defiance to consumption and scrofula for ever and ever. So all-important is the respiration of a pure, unprebreathed atmosphere all night long, that I should freely stake the prospect of health upon its observance alone, before and beyond any and every other means, which omitted this most desirable and, indeed, indispensable requirement. . . . If the inhabitants of Great Britain and Ireland would but consent day and night to live in a pure, unprebreathed atmosphere, it would put a total close to the ravages of consumption and scrofula, white swelling, tabes mesenterica, water on the brain—in fine, the whole abhorred family of tuberculous disease.

Then in relation to the bearings of climate how modern he is!

> There is, in fact, no panacea in Californian air, no peculiar specific for lung troubles. If we cannot have the summer of California or the winter of sunny Mexico, we possess not the less a climate, whatever some may choose to say against it, replete with almost every possible element of vitality and well-being. We have air as pure as any obtainable on Californian or Mexican hills, air abounding in oxygen and ozone, air, in short, which, if we only do not respire it twice, leads to as perfect security from tubercular disease here as there. . . . The shores, almost any of them, of our own islands, our mountain slopes and airy downs, our many heaths and moors, will often, if not most times, prove preferable to, while they are much more accessible than is any Nice, or Rome or Madeira. The materials for the possible recovery from phthisis, I repeat, lie around every door.

These are remarkable words, are they not?—the sayings of a seer, the writings of a prophet. Reading them to-day I cannot refrain from congratulating Belfast and reverently saluting Henry MacCormac.

TUBERCULIN AND VACCINE-THERAPY.

Turning from this to tuberculin. The quest after a specific remedy for tuberculosis has been long and disappointing. Until the discovery of the tubercle bacillus the quest was in the dark. The best attempts were but random shots inspired by the hope that in some lucky moment the *materia medica* might reveal a drug to which tuberculosis would respond as syphilis does to mercury and iodide of potassium. Among the legion of vaunted remedies none can be credited with much beyond symptomatic value.

The recognition of the tubercle bacillus gave fresh impulse to research, and afforded occasion to determine on scientific lines the activity of bactericidal agents against the bacillus both *in vitro* and in the living tissues. Once more—notwithstanding recurrent claims to the contrary—the net result has been discouraging. No bactericidal agent, in the ordinary sense of the word, has yet proved effective in dealing the death blow to the bacillus which is not at the same time harmful to the living tissues of the human organism.

A more satisfactory picture presents itself when we turn to tuberculin. The discovery of tuberculin in 1890 meant an entirely new conception of treatment in tuberculosis. At first tuberculin attained but a precarious foothold in medical practice. On the reasons for this I shall not enter. During the years which have elapsed it has been continuously used by me as a therapeutic agent. There has been ample time for experiment, observation, and reflection. These have been not less satisfactory because of the reserve and even distrust with which the agent was commonly treated. Necessarily mistakes occurred, and conceptions and methods have shifted from time to time. Looking back, it is gratifying to have the opportunity to state that throughout the period there has grown and remained with me the conviction, which is ever ripening, that in tuberculin we have a remedy of first importance in the treatment of tuberculosis. The cases treated have been very numerous and of varying kinds and types. The net result is a decisive verdict in favour of tuberculin.

The excessive dosage and too frequent exhibition of tuberculin of the first few years have been modified. The value of smaller doses, repeated at intervals, has been recognized. Gradually the cruder conception of its mode of activity has merged into that of vaccine-therapy.

On the principle of vaccine-therapy I may not dwell. Suffice it to remind you that its aim is the production of immunity by stimulation of the natural protective mechanism. Vaccine-therapy seeks to activate the leucocyte and the bacteriotropic elements of the blood. It is admittedly difficult to immunize a healthy animal against tuberculosis. More difficult still is the attempt to immunize an animal already affected. After all has been said and done, a complete immunity from tuberculosis seems a good way off. By the exhibition of tuberculin we introduce an agent closely related to the infecting organism in the hope that we may thereby reinforce Nature's own effort at immunization. But we are working in the twilight. The exact effect of varying doses of tuberculin on the subject infected with tuberculosis is obscure. We are even hazy as to what we wish to effect. What is meant by a so-called reaction—using the term in its widest sense? Is it something to be desired? How are we to direct and limit reaction? What are its bearings on immunization?

It may be affirmed with reasonable certainty that pronounced reactions, both general and local, are to be avoided. On the other hand, it will be the conclusion of most observers that a mild reaction, local and general, is associated with progressive changes which make for improvement. A chief aim of clinical investigation should be the determination of the degree and limits of this serviceable effect. How are we best to attain satisfactory results? How are we to determine for different cases and occasions the *optimum* dose, and so exclude harmful effects which result from excessive dosage? Needless to

say, both care and experience are required. It seems to me that, as physicians in immediate relation to the patient, we have methods of gauging from day to day the result of tuberculin treatment similar to, if not yet as certain as, those by which we gauge the effect and value of digitalis or other of the more potent drugs of the *Pharmacopoeia*.

One of the more striking results of well-regulated dosage with tuberculin is the modification of symptoms indicative of systemic intoxication. From the first injection onwards, where dosage has been successtully determined, there is commonly reported by the patient a sense of improvement and even well-being, with a corresponding limitation of constitutional symptoms. The patient loses the feeling of tiredness. Other symptoms lessen. The local effect of tuberculin on tuberculous tissues is no less striking. Every one who has seen the change effected by tuberculin on a local lesion—for example, a gland, preferably a discharging one, or a superficial tuberculosis of mucous membrane or skin—must realize its remarkable influence. The hyperaemia induced in and around the tuberculous focus is conspicuous, and must have something to say in respect of the curative process. Similar evidence is available in relation to pulmonary tuberculosis.

With improper regulation of dosage or with want of care, the effects may be less happy. On the one hand, constitutional symptoms may be accentuated, as evidenced by the patient's sensations (anorexia, malaise, headache, etc.), colour, pulse, and temperature. On the other hand, local aggravation may be registered by changes determinable, when superficial, by eye and hand, or, when more deeply situated—for example, in lungs—by physical examination. Such changes are definite, and recognizable by the experienced clinician as clearly as are changes in relation to other groups of medical disease.

Speaking as a clinician, with prolonged experience in the use of tuberculin, may I say that I am unable to acquiesce in the proposal to replace thorough clinical observation by reference to one set of phenomena, namely, those of the blood? The latter afford contributory evidence, but they do not seem to me to constitute the case, in the legal sense. While no one can fail to be impressed by the extreme value and beauty of the line of research, we have still much to learn as to the actual relationship between the opsonic index and the production of immunization. It may yet be ascertained that the changes registrable in the blood afford a satisfactory index of the progress of other changes essential to immunization. Meantime I do not feel that, so far as tuberculosis is concerned, this has been attained.

This is especially true of pulmonary tuberculosis, with regard to which there is available evidence, both systemic and local, which appears of greater range and reliability than that offered by opsonic determination. The opinion is not an *a priori* one. It is advanced after careful comparison of results obtained in a large series of cases. In some of these, treatment was regulated by estimate of the systemic and local evidence. In others, it was regulated by determination of the opsonic index. No trouble was spared to make the determination in both sets of cases as exact as possible. Throughout the series I have not found that the balance was anyways in favour of the latter. It has seemed to me that the opsonic curve may sometimes suggest that the patient is not doing well, while other clinical evidence affords convincing proof to the contrary. Conversely, opsonic readings may appear to indicate satisfactory progress when on other clinical grounds we have to conclude that the progress is downwards.

I refrain purposely from dwelling on the technical difficulties, inherent to opsonic determination, which meantime place the method outside the usual possibilities of the general practitioner. Such objection, great as it is, would not be sufficient to exclude a method if proved of incomparable value as a means of scientific treatment.

I have already given expression to a *caveat* in respect of the attempt to conclude an *in absentiâ* diagnosis and prognosis in such a condition as pulmonary tuberculosis from examination of the expectoration. Need I suggest that the proposal, which is sometimes seriously made, to treat a patient who has never been seen on similarily limited evidence is extremely dubious?

In the use of tuberculin, success will not only depend on the accuracy and experience of the physician, but very largely on the patient's immunization potential. This varies with the individual and the stage of the process—that is, whether the tuberculous lesion is local merely or systemic. The significance of the classification of pulmonary tuberculosis to which I have already referred is once more illustrated. It may be stated broadly, that in proportion as the disease is localized and presents little systemic involvement (in other words, in proportion as L is greater than S), the hope of successful treatment by vaccine-therapy is enhanced. Tuberculin has remarkable influence in defining and delimiting tuberculous disease. Its influence is conspicuously conservative.

To take examples, I may cite tuberculosis of glands, bones, and joints. Here the effect of tuberculin is conspicuous. Treatment by tuberculin is advantageously combined with surgical interference. Tuberculosis of skin and mucous membrane is likewise readily cured. Tuberculous enteritis is favourably affected. The results in genito-urinary tuberculosis have been remarkably encouraging. In pulmonary tuberculosis much depends on the stage and character of the lesion. In the majority of early cases the result is satisfactory. In proportion to the advance of disease and the presence of systemic intoxication the possibility of cure becomes restricted. The reason for this is twofold—on the one hand, anatomical, and on the other, physiological.

Anatomically the process of arrest in tuberculosis is associated with cicatrization. If arrest is to be effective and permanent, cicatrization must be complete. This implies, in the case of pulmonary tuberculosis, corresponding shrinkage of the superficial structures forming the chest wall. In slighter cases the necessary shrinkage of the thoracic wall is readily attained. According as the disintegrative process in the lung extends more widely, with production of vomicae, the chances of shrinkage of the thoracic wall proportionate to the requisite contraction and cicatrization of lung tissue are progressively lessened. Inevitably there comes a time when intrathoracic disintegration is in excess of possible shrinkage from without. In such a case pulmonary cicatrization will remain incomplete. It is impossible for the ulcerated surfaces to close.

Such considerations explain why treatment of a patient with slight apical change is comparatively simple and satisfactory and why, contrariwise, in other cases it may be impossible on purely local grounds to attain an effective cure. Hence, doubtless, in a young subject, whose chest wall gives freely, treatment is commonly more successful than in the adult patient with fixed, rigid thorax. From the same cause, probably, it results that pulmonary tuberculosis in the young child so often heals spontaneously. In this sense there may be traced an analogy between the results obtainable in pulmonary tuberculosis and in empyema. In both conditions the important factor which renders the child's recovery more easy than the adult's is the relatively yielding condition of the thoracic wall.

From the physiological side the limitations to tuberculin may be stated thus: So long as the local process is the main feature—that is, so long as systemic disturbance remains relatively slight—we may anticipate benefit from treatment by tuberculin. On the other hand, with advancing intoxication there comes a time when the introduction of tuberculin ceases to have value or when the introduction of tuberculin may do positive harm. Where the system is already soaked with tuberculous toxins, the addition of tuberculin will probably make matters worse. The possibility of activation of leucocytes and bacteriotropic elements no longer exists. The limits of activation have been passed.

While this is so, the curious and interesting observation is sometimes made that, even when recovery seems no longer likely, tuberculin may yet exert important symptomatic influence. Thus I have frequently seen asthmatic manifestations strikingly relieved. The same thing may occur in relation to cough, and even haemoptysis. The explanation of this is not quite evident, and cases vary much. It is yet a point of therapeutic value worth remembering.

In much of this we are still groping a way through an intricate maze. If the quest be difficult, the fascination is great and the reward is fair. Amid the perplexities of the road, the worker of to-day holds a thread in his hand which was denied to the generations that have gone. It is significant that this great Association, representative of

medicine in the land of Edward Jenner, should have this year constituted a separate section for deliberation in the department of vaccine-therapy. If it seem hazardous to increase the subdivisions of medicine on such occasions, we shall most of us be agreed that it was a happy inspiration which led the Council to make the present experiment, and no less befitting that the trial should be inaugurated under the direction of one who, along with his fellow workers and pupils, has so conspicuously illuminated the subject.

THE LARGER PROSPECT.

Time forbids further digression. What of the larger future? May we look forward with confidence to the time when tuberculosis shall cease to be? I think we may. Everything points to its early and final disappearance. This should not be impossible of achievement within a generation or two among the nations which regard the public health as an integral part of civilization. Is not tuberculosis chiefly the expression of partial, ill-informed civilization? It was introduced by ignorant, unthinking mankind, and mankind, educated and thinking, can expel it.

We are wont to speak of two factors in reference to infective processes—namely, the soil and the seed. It is a handy enough mode of expression, and its application to tuberculosis seems especially natural. But I should like to insist that, in addition to the soil and the seed, we have to reckon also with the tuberculous *seedling*. The invasion of tuberculosis is a slow process, much slower than is usually conceived. Infection by the tubercle bacillus is not the work of a moment. For the most part it is dependent on devitalizing influences which have been long at work. Even after infection Nature's barriers are many. The bacillus does not get it all its own way. Considerable resistance is usually offered. The first line of defence at the lymphatic glands may show excellent fight. As physicians, we cannot be too alive to the call for help which multiple enlargement of lymph nodes implies. Reverting to the former metaphor, this is the stage when the tuberculous seedling should be recognized. Happily this is possible in a variety of ways.

The realization of the vast frequency of tuberculosis in childhood is the first step to its timeous recognition. The removal of the tuberculous weed is an easier process at the seedling stage than when it is a grown tree. Let us be jealous of the first buddings. The children of a community must be carefully scanned. This is a matter, as it seems to me, for the general practitioner, and not primarily for the medical inspector of schools. I would fain see parents insisting on the periodic examination of their children at home and the periodic inspection of home conditions. The family doctor should anticipate the school inspector. It is not alone in the home of the poor that the "march-past" of the inmates reveals the presence of tuberculous seedlings.

In the wider sense the principles of antituberculosis warfare are clear enough. The chief difficulty lies in their practical application—especially their engraftment on the older régime.

Conceive a city built to-day *de novo* in accordance with physiological and hygienic law. The structure and arrangement of the houses would be a first consideration. The sunless, airless dwelling would be impossible. Every apartment would have the maximum of sunlight. Windows would be framed so as readily to fulfil their other function, namely, to let in air. From infancy the citizen would be trained to regard the dual function of the window as vital to his safety. The nursery would especially be bathed in air and sunlight. The schoolroom would be an object lesson in hygiene. None would be sanctioned whose ventilation was not in large part associated with the open window. There would be no school without a large playground. In fine weather much of the work would be done outside. Throughout the town wide streets would be the rule. Open spaces would abound. Crowding in dwellings, offices, workrooms, factories, meeting places, would be criminal. The housing of cattle would be similarly regulated. In such a city soil for tubercle would not exist. Tubercle would be unknown. It need never appear.

The immediate difficulty is, How to engraft these ideas on the older system? How best to reform the cities of an earlier civilization? How to effect what is needed reasonably soon? Local authorities need to be reminded that they already possess far-reaching powers, and should be urged to make use of these, especially in respect of faulty construction of houses and streets. Dwellings and apartments unfit for human residence or work must be more freely condemned. Where insufficient powers exist, fresh legislation must be called for. The case for such legislation is clear, and its inspiration will be found in the successful results of sanitary legislation in the past.

What applies to our towns applies no less to country districts. *A priori* it seems unthinkable that tuberculosis should be a frequent visitor in the countryside. And yet it is extremely prevalent. The other day the wife of one of our largest landowners, who is keenly interested in the well-being of the people, asked me how it was that in their lovely county consumption should abound. The answer is, unfortunately, that the same causes are operative there as in towns. I fear, indeed, that it may prove a harder task to control and eradicate tuberculosis in rural districts than in urban centres. It has always been less easy to change faith and practice in outlying districts. But the principles of reformation are the same, and in this instance the countryman has the advantage of greater ease of adjustment to the new life, if only the creed be accepted and its meaning practically grasped.

With the soil rendered unsuitable, I feel less concern about the seed in time to come. On the crop which remains in our present crowded centres the awakened intelligence of our people is beginning to tell. The thorough tackling of existing tuberculosis, on the comprehensive lines already referred to, will prove sufficient, if only well-organized antituberculosis schemes be associated with larger preventive measures.

The ravages of tuberculosis constitute a blot on our civilization. It is time that we inaugurate a policy commensurate with the evil and worthy of the age. It is time that we grasp the larger conception of tuberculosis as not merely the cause of an overwhelming mortality and infinite distress, physical and economic, but also a great devitalizer of the race, indirectly responsible for an incalculable amount of other disease. So soon as that is realized, and also that the agencies which condition its occurrence are as certainly removable as those which led to typhus, we shall act effectually. Never were the causes of a disease so definitely ascertained. What is chiefly needed is the awakening of the educated intelligence of the nation and the belief that the end is attainable. When that has been achieved, the offices of the doctor will be placed on a higher plane. Instead of being asked merely to tinker up diseased frames, he will be recognized as a nurseryman in the Garden of Health. Is it too optimistic to anticipate the time when the physician shall have restored to him his proper *métier* of physical "educator"—in the largest sense—and guardian of the National Health?

Address in Surgery

DELIVERED AT THE

SEVENTY-SEVENTH ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION,

BY

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PROGRESS IN INTESTINAL SURGERY.

My first and pleasantest duty in appearing here to-day is to express my cordial acknowledgements to the Executive of the British Medical Association for the very great honour they have conferred on me in asking me to deliver the Address in Surgery at this meeting before so distinguished an audience. The pleasure is particularly great because the invitation brings me once again to the land of my birth and to a province in which I spent the happiest days of my boyhood.

It is something to have even lived not far from Belfast during the period in which she has demonstrated more than at any other time in her history her claim to be

considered one of the most progressive cities in our great Empire.

Reminiscence begets reminiscence, and one is led in looking back over a very stirring era and in a great centre of progress to consider what advance has been achieved in our own science and art during that time. In doing so one is almost bewildered by the multiplicity and magnitude of the strides which have been made in surgery in the present generation. Under the inspiring leadership of Lister conquest has followed conquest, until it may be said that there is hardly a region or organ of the body which has not been brought under the beneficent rule of recent surgery. To attempt a review of these achievements within the last twenty-five years would be a task too great for the present occasion. But if I venture to ask you to recall what has been harvested in one field of surgery, which to many of us in our earlier professional days appeared particularly unlikely to yield fruit, and if I endeavour to trace in broad outline the evolution of those ideas which underlie some of the progressive work which has been done in the surgery of the intestines, it may be profitable and encouraging to fresh effort. For it must be abundantly clear to any seriously reflecting mind that what has been so far achieved is almost as nothing to what remains to be done.

Within the memory of many present to-day any trans-peritoneal interference surgically with the intestinal canal was regarded as one of the most dangerous undertakings possible. Nowadays, although we look upon all intestinal work as demanding the greatest pathological knowledge, technical skill, and judgement, we know that it can claim an ever-increasing measure of success.

One of the first reasons for this progress lies in the fact that we have now ever clearer conceptions of the functions of the peritoneum.

When the abdominal cavity first became accessible to surgical interference our conceptions of it were dominated by the idea that its lining was one of the most vulnerable points in the whole body. But soon after came the gradual recognition of the wonderful powers of repair possessed by the membrane when unsoiled by septic matter. Perhaps no one did more to demonstrate this even before our era than the father of abdominal surgery, Spencer Wells. And we must not forget that this was in spite of the fact that much of his work was done before the acceptance of the Listerian régime. With the advent of the antiseptic era and the general improvements in results achieved, the conviction was forced upon the surgical mind that many of the successful cases of abdominal section which had recovered anterior to it could not have been performed under anything approaching ideal aseptic conditions. In other words, it seemed clear that if (as was almost positively the case in many of the earlier operations) a certain amount of infective matter must have been left behind in the abdomen after procedures where recovery followed, the peritoneal cavity surely possessed some, then unknown, power of tolerating a certain amount of septic material for a time and ultimately removing it completely. This conviction was strengthened more and more as the pathology of so-called appendicitis (to mention no other lesion) began during the same period to be better understood, and its clinical history to be more closely followed with and without operation. With the knowledge that this disease was an infective peritonitis starting from the vermiform appendix, it became abundantly clear that unless the peritoneum possessed the power of disposing in some way of very considerable quantities of septic matter no case of *acute* appendicitis could possibly recover. And yet it soon became obvious that many such cases did get well without any operation even after severe peritonitis. Moreover, this led to much greater hopefulness about all surgical interference within the abdomen, whether for accident or disease. And the conviction henceforth gained strength that in the peritoneum we possess a powerful ally, always ranging itself upon our side instead of a foe. These facts gradually aroused doubts as to whether the free use of chemical germicides so beneficial elsewhere was, within the abdomen, really sound practice when it was seen that the peritoneum alone could dispose of infective material and when it was discovered that these germicides could exert noxious influences upon the inherent reparative powers of the membrane. By degrees bacteriology and biology have furnished us with explanations of the facts observed in clinical study, and we have come to know something more definite about the defensive powers of the serous cavities. We know now pretty conclusively that these defensive agencies are not at an end when the membrane has thrown out a certain amount of plastic lymph for the repair of a lesion or the shutting off of an infected area. We believe that this is not its only function, but that under irritation it pours out an abundant effusion of fluid, diluting any toxins present; and that this fluid, like healthy serum, has besides an inherent property of inhibiting or destroying bacterial growth to a certain extent, limited of course, but marvellous as far as it goes.

The observation that the peritoneum was able under proper stimuli to rapidly furnish lymph of the very best quality for the repair of damage was a very old one. But the view that the fluid poured out into the abdomen under traumatic or bacterial irritation was in the first place a diluent of any toxins present, and in the next inhibitory or destructive to organisms, has only come to us recently in the evolution of biological knowledge.

Its development has gone hand in hand with the study of phagocytosis, and cytolysis, and of antibodies and opsonins in the blood and fresh serum. And I cannot help feeling that these studies have not as yet sufficiently influenced our practice in dealing with the peritoneum. Immense industry and brilliant research have led very far, and have furnished us besides with antitoxins and vaccines for a number of infections. But, speaking with the most profound respect and gratitude for these discoveries, I sometimes venture to think that attention has been more or less diverted by them for the moment from the marvellous powers of the body itself of producing antibodies *in situ* when called upon. For instance, where infection of the peritoneum is obvious, some of us are perhaps nowadays too ready to turn to manufactured antitoxins, and to overlook the fact that before they were discovered countless cases had been saved by some germ-destroying mechanism inherent in the serous cavities themselves, probably in the serum and cells effused into them during inflammation. After all, the practice of increasing the amount of blood and serum in a damaged part by means of poultices, fomentations, and other so-called rubefacients is of great antiquity, and has been universally sanctioned as a means of combating destructive inflammation. But the biological mechanism, so to speak, by which hyperaemia operates in arresting septic processes, has only recently received close study, as I have said. At all events, we are not so much afraid now as formerly of hyperaemia and effusion into serous and other cavities within certain limits. Indeed, under the influence of Bier's views on hyperaemia, the premeditated increase of blood flow and effusion of serum in infected areas has once more come to be emphasized as a regular practice with the very best results, as, for instance, in infective synovitis of joints and tendon sheaths. Here it has been proved over and over again that joint cavities swarming with certain bacteria beforehand are sterile after the hyperaemia treatment with rubber bandages or suction glasses has been properly carried out at intervals for a few days. That inflammatory effusions into the peritoneal cavity under septic irritation are also, up to a certain point, beneficial, seems now certain. And this view explains why it is that we now very often obtain so much better results in abdominal surgery without drainage in cases where a few years ago it was considered indispensable and carried out very elaborately. It is, of course, necessary to be very cautious in applying these theories to our practice in the surgery of the intestines, but we have, I believe, already received much valuable help from them just in this particular field. We have learnt to be more rigorous in our precautions for warding off sepsis from without during operation, more careful to guard the serous surfaces from all rough treatment during manipulation, and from chemical or physical irritation while exposed, and, on the other hand, more hopeful and bolder in cases where it is already obviously present within the abdomen. Let me illustrate this now by a case. About a year ago I was asked by my colleague, Sir Thomas Barlow, to operate on a boy of 14 who had been ill for some weeks with peritonitis, which had ultimately culminated in a localized swelling in the left iliac fossa, probably tuberculous in origin, and already softening

into an abscess. With considerable misgiving, knowing from experience the softened condition of tuberculous intestines around a breaking-down mass, I operated. A foul, stinking collection of pus was found in the midst of adherent coils of small intestine thoroughly rotten. An attempt to separate them only resulted, as I had feared, in their crumbling down in several places. It was necessary to completely resect a considerable length of this small intestine ragged with holes and to join sound bowel end to end above and below the damaged portion, all of which was removed. Now all this was done without antiseptics in the presence of foul pus which we could not pretend to have completely evacuated and wiped away during and at the end of the operation. Notwithstanding, I thought it better to close the parietal incision without drainage, even at the risk of the effusion re-forming and pointing through the closed wound. This it did to a small extent after some days, but the discharge soon ceased, the wound healed soundly, and the boy made a complete recovery, being fat and ruddy and without any intestinal trouble when he returned for examination some months later. Not so long ago such a condition as was found here would, I confess, have seemed, at all events to me, hopeless, and would have been treated by simply drawing out the ragged, perforated bowel and making an artificial anus in it, with the usual bad result. But the boldest course proved the best, in spite of the septic condition encountered. It may be asked, Would it not have been better to have put in a gauze drain down to the line of junction in the intestine? Possibly it might have been for a day or so, but I thought not at the time, and am of the same opinion still. The presence of effused serum after such an operation is not injurious within certain limits, and it is not necessary to drain it off in every instance. This requires judgement, and each case must be treated on its own merits.

I may be pardoned for alluding to two other cases bearing on the same point. As they have both been recorded, a brief notice will suffice. The first was that of a woman of 76, admitted into University College Hospital in a very serious condition, due to an internal strangulation of several feet of intestine by a band, with gangrene of some feet of it. On opening the abdomen, a couple of pints of very foul, dark greenish brown fluid escaped, and black dead coils of intestine followed. I found it necessary to resect 5½ ft. of bowel to reach sound gut. No antiseptics and very limited mopping were used, and the edges of the wound, which had been soaked in the foul effusion throughout the operation, were united without drainage after being simply wiped dry. Primary union, not showing a single flaw, was the result, and I saw the patient two years afterwards, at the age of 78, quite well and hearty. She was an Ulster woman, which may, of course, have accounted for her vitality. The second case was like it in almost every respect. It was that of a lady of 49, to whom I was hurriedly called out of London eighteen months ago. Here, too, there was a disastrous, sudden internal strangulation by band of about twenty hours' duration. The patient was cyanosed and pulseless at the wrist. When the abdomen was opened about 1½ pints of stinking, greenish-brown fluid gushed out, and a mass of black, foul intestine was found to be hopelessly strangled. It was necessary to resect 4 ft. 9 in. of bowel and make a side-to-side anastomosis. Here, too, the parietal wound was completely closed without drainage or the use of any chemical germicides, and was healed in ten days with only one slightly moist stitch. Recovery, in short, was perfect and permanent, as I have since heard. In neither of these two cases could there be any pretence that the abdominal cavity was left quite clean by simple mopping at the end of the operation. But in both the peritoneum was manifestly able to deal with what septic matter remained behind after the removal of the gangrenous intestine and the bulk of the effused fluid. The most reasonable interpretation of the results appears to me to be that the effused fluid was in the first place inhibitory to the free growth of organisms, and in the second a diluent of the toxins of those present, enabling them to be excreted without harm to the system generally and to the kidneys in particular. I feel confident that without a belief in the newer views as to the powers of the tissues to deal with considerable quantities of certain septic matters I, at least, would have regarded these three cases as hopeless and would have abandoned them when I saw the state of things within the abdomen. Other cases similar to them might also be cited if time permitted. Moreover, I feel sure that any prolonged attempts to render the abdominal cavity more ideally clean either by flushing by antiseptics or sponging out—such as would have been made a few years ago—would have been not only futile here, but injurious to the defensive works of the peritoneum. In these cases we were dealing with intra-abdominal conditions undoubtedly contaminated. It was our business to restore the continuity of the obstructed and damaged bowel, and by every conceivable precaution of asepsis to prevent any superadded infection from without. This we did and evacuated the bulk of the foul matter. With what remained the peritoneum was able to deal, and did so rapidly.

We are here thrown back upon the faith of our fathers in the *vis medicatrix Naturae*—a power intangible, beneficent, all-pervading, claiming our faith, arousing our hope, but baffling our analysis hitherto beyond a certain point. Yes, we have changed our conceptions of the protective and reparative functions of the serous membranes very much indeed within the past few years, and, as a rule, to the advantage of our patients. We recognize and understand their protective purposes more fully, and are careful to foster and not to impede them. Who would have believed a decade or two ago that the brain and cord may be bathed in virulent septic fluid for days, and yet recover all their delicate mechanism once more, aided by manufactured antitoxins introduced from without? And none have demonstrated this fact more satisfactorily than the physicians of Belfast in your terrible epidemic of cerebro-spinal meningitis. Again, the fact, established by numerous observers now, that this same disease in its severe forms may be recovered from under simple repeated tappings of the spinal canal through the lumbar sac without any injection at all, suggests strongly that these serous coverings, too, must possess defensive works of the highest order, only requiring slight assistance in the removal of an overplus of poison to effect a complete recovery in many cases. And this does not apply alone to infection with Weichselbaum's bacillus. Those of us who, like myself, have seen our patients in a state of wild delirium, etc, from cerebro-spinal meningitis starting in the ear, relieved almost at once and ultimately recovering completely after repeated withdrawal from the lumbar sac of the products of inflammation, are driven to the conclusion that the powers of defence against bacterial invasion possessed by this cerebro-spinal serous membrane must be very great, and analogous to that of the peritoneum.

Once the assurance was arrived at that the serous membranes were on the side of the surgeon and not against him, a long step in advance had been made, and we were encouraged to put forth every power to preserve all its protective forces intact. For it became a matter of observation that these could, under certain circumstances, become exhausted. Prolonged exposure and chill, for instance, or injudicious manipulation or sponging quite apart from sepsis, had been found by experiments on animals and in practice on the human patient to lower the reparative forces of the peritoneum. And besides this, though the peritoneum could be shown to tolerate a certain amount of bacterial poison, it became quite clear that, marvellous as were its powers in this direction, they had their limits, and these could ultimately be reached, even in the case of the less virulent organisms. Also we came to know that there are various infections—for example, with certain streptococci—which seem almost from the first to baffle all the reparative and eliminative powers of the serous coverings. Which of us has not often seen cases, for instance, of appendical (or, as it is perhaps more classical to call it, with Küster, "epityphlitic") peritonitis successfully arrested by the natural powers alone, unaided by operation? And which of us has not felt, in operating for epityphlitic abscess, that we have done little more than provide an escape for pus which had already been securely shut off from the system by adhesions, in spite of the bacteria and their toxins? Which of us, finally, has not seen many cases of severe epityphlitic peritonitis, where we have opened the abdomen early and found only general redness of the serous surfaces

with very slight effusion and no trace of reparative lymph, where deep general toxaemia was already obviously present, and where from the first the peritoneum seemed unable to cope with the poison, either on account of its quantity or, more probably, of its peculiarly noxious quality? We have seen the same thing in many cases of punctured wounds of the intestines. In some, great advances in the direction of repair only calling for a little ordinary surgical help, and in the others no progress at all in the formation of plastic lymph, and a condition beyond the reach of any operative measures. When we speak now of peritonitis, we are conscious that we are using a term which includes conditions as widely apart as are an ordinary attack of eczema and a desperate cutaneous streptococcal erysipelas. This knowledge has already had the greatest influence on our treatment of abdominal inflammations. Take, for instance, the question of drainage, formerly considered indispensable. We now know that in many cases it is not only not necessary, but injurious. Many of us are able now in certain cases, where an inflamed epityphlon or pyosalpinx has been removed from the middle of a small abscess, to close the parietal wound without a drain and obtain flawless union per primam.

Another observation which has had an enormous influence upon the surgery of the bowel is that healthy intestinal walls will prevent the migration, to any serious extent, of the bacteria of the contents through them, but that if their vitality is lowered (to use an ordinary term) by accident or disease, even without any breach of surface, this migration will take place through mucous, muscular, and serous coats, and the general cavity of the peritoneum will thereby be infected more or less seriously. This most important discovery—first made upon the fluid found in the sacs of herniae in various degrees of strangulation and then demonstrated experimentally—has had a greater influence on our dealings with the intestines than is commonly supposed. On the one hand, it prompts us in our operative manipulations to deal as gently as possible with the tissues of the bowel, and, when the latter is damaged by injury, strangulation, or other disease, to be sure that in removing it we only leave really healthy tissue behind, not merely that which shows no loss of substance, but such as is capable of resisting the emigration of organisms from within outwards. It also prompts us in cases where enterectomy is contemplated, and where time permits, to reduce the number of bacteria in the contents of the intestine by laxatives, enemata, and intestinal antiseptics, as well as by the cleansing of the mouth, teeth, and pharynx, and the use of only sterilized albuminous food. Moreover, it has led us in cases of obstruction to adopt the routine of washing out the stomach thoroughly before operation wherever feasible, knowing as we do, since the practice has been adopted, that in many such cases the stomach contains large quantities of putrid material, which in course of time would have to be vomited or pass through the part of the intestine lowered in its vitality by the strangulation, and possibly also by the exposure and manipulation necessary during operation, thus increasing the chances of infection. That a certain limited number of bacteria pass from the intestine into the peritoneal cavity in health without injurious effects seems probable from recent investigations. This suggests the possibility of a gradual immunization of the serous covering in chronic obstruction, a view which some of the facts observed in this condition seem to support.

Other additions to our knowledge, both theoretical and practical, have also combined to remove many of the risks of intestinal operations: among these our experience that patients after such procedures need not necessarily be entirely deprived of food by the mouth for long periods. This, of course, is contrary to the teaching of earlier days. And yet it is in accord with sound theory. We know now that the mechanical efficiency of our deeper line of sutures passing through all the coats of the bowel lasts in most cases for days if cleanly done, and is sufficient to prevent separation by the movements of peristalsis, and that round the outer sero-muscular sutures enough lymph is thrown out in six or eight hours to produce fairly sound union and stop leakage. We know, too, that this plastic process is more perfect the better the patient is nourished. And as it is often the case that such patients have been precluded from having proper nourishment for days beforehand, or have constantly vomited it when taken, the need of aliment after operation is very great. Of course, when vomiting due to the anaesthetic is still present, food by the mouth is useless. But we are now able to give peptonized foods by the rectum, which were not formerly at our disposal, and have more recently learnt how to employ several important aliments subcutaneously. Here not only can water, the first need of the system, be given in large amount and with perfect safety in normal saline solution, but also carbohydrates in the form of 5 per cent. solution of glucose. In this way 2 oz. of sugar can be administered per diem—in short, a very important food, without any demand upon the alimentary tract. The increased action of the kidneys induced by the free instillation of fluids we believe to be most useful further in carrying off diluted toxic matter from the system charged with them as a consequence of the condition for which the operation was performed.

Then during the same period what improvement in the art of administering general anaesthetics has taken place! The drugs are now purer, the dosage better formulated, and the danger signals during administration better understood. We now recognize that the anaesthesia must be pressed while the peculiarly sensitive parietal peritoneum is being manipulated, while it may be reduced or actually omitted during the manipulations and stitching of the practically insensitive intestine. The amount of the drug, therefore, given in these mostly protracted operations is now enormously and advantageously reduced in the hands of experienced administrators. This we owe in a large measure to the recent brilliant demonstrations on the innervation of the parietal and visceral peritoneum by our Swedish and Russian *confrères*. Their discoveries supply us besides with many data of the utmost use in the localization of lesions in the abdomen by painful impressions. Further, many of the dangerous pulmonary sequelae of general anaesthesia, so often seen not long ago in intestinal surgery, especially when stercoraceous vomiting was present, and before the routine of washing out the stomach before operation was practised, are now reduced in number and severity. Thus infective affections of the lung are avoided or controlled by greater care in cleansing the apparatus employed and the rigid attention to the antisepsis of the teeth, nose, and throat, which is now also a matter of routine. We have also learnt that the lung troubles which so often follow abdominal operations can be prevented, and favourably modified by abandoning as soon as possible the recumbent position formerly thought indispensable after operation, and by placing our patients in the sitting position in or out of bed within a day or two of the operation. This has also probably a favourable influence on that nightmare of abdominal surgery, pulmonary thrombosis, which, though regarded by most of us as depending on septic conditions, is undoubtedly favoured by shallow respiratory movements in the recumbent position. Whether the employment of local and spinal analgesia will ultimately eliminate some of the risks following general anaesthesia, it is too soon to predict with any certainty. But from what I have myself seen of both procedures in hundreds of cases, and from the study of analyses of many thousands more now published, I cannot help hoping that there is a great future for both in abdominal, and especially intestinal, surgery. On one point, however, I believe all surgeons who have employed spinal analgesia to any extent are agreed, and that is that the conditions under which the operations are done with it are immeasurably superior to those present under general anaesthesia. There is, for instance, absolute quietude and relaxation all over the field of operation—no small matter in the patient's interests where delicate adjustment of parts is of importance. At all events, for my own part I have thought it my duty to study the whole question in its many aspects, and to examine into the value of these methods in hundreds of cases guardedly, patiently, and I hope dispassionately. For local analgesia, which is quite innocuous when used intelligently, there is undoubtedly a considerable if restricted field of usefulness in abdominal work, as, for instance, in strangulated hernia in the aged and decrepit. Here it is an ideal procedure, and I believe it has already saved many lives by eliminating the well-known risks of general anaesthesia.

Another point which has had a remarkable influence upon intestinal surgery has been brought out within the last few years, partly by experimental work on animals and partly by the experience of surgeons who have felt themselves compelled, for one reason or another, to remove considerable tracts of bowel. We have learnt that considerable lengths of the jejunum, ileum, colon, and rectum can be at all ages removed without any very apparent influence for evil upon the processes of digestion and assimilation. I do not for a moment wish to suggest that we have arrived at final conclusions upon this point. Physiologists are at present hard at work upon it, as I know, and are making extensive studies on the excreta of patients who have been compelled to part with various portions of the alimentary canal. Nor do I wish to acquiesce in the removal of any part of the latter tube for any but the most unavoidable reasons. I merely desire to draw attention to the fact that for some of the gravest emergencies in human experience large portions of the intestinal tube have been removed without seemingly producing the deleterious effects which might perhaps have been expected. My own experience of such procedures includes the removal, in one case, of between 6 and 7 ft. of small intestine, in several of between 5 and 6 ft., and several more of lesser amounts of both small and large intestine. In none of these was there any evidence months or years later that the general health had been in any way injuriously affected. And it has been the same in many published cases, though not in all. At all events, I believe it has been shown that the removal of any amount of small intestine up to 6 ft. can be well tolerated. And, as far as I know from observation and study of the literature of the subject, age or sex does not influence this conclusion. My own eldest case was aged 76, and here at least 5½ ft. were excised, the patient being in excellent health two years later, as was also another case over 50 in which I removed 6½ ft. How much of the *large* intestine can be removed without demonstrable effects on the health is not yet fully known; but for malignant and tuberculous affections nearly the whole has been taken away or excluded from use, and the patients have enjoyed good health afterwards. I have recently seen one of my own cases in which more than five years ago I extirpated a great part of the colon for malignant disease and excluded the rest, and the patient is now in the most robust health, and without any sign of recurrence, with only the rectum representing the large intestine. A full report of the effects on the excreta of the elimination of the colon in this case will soon be published from the chemico-pathological laboratory of University College. But it is, in my opinion, quite another thing to say that the large intestine should be removed for other less serious conditions, such as chronic constipation. Personally, I have no experience of the procedure for this trouble, and am not concerned with the controversy anent it.

Having reviewed some of the factors contributing to our present success in intestinal surgery, let us glance at some of the conditions formerly considered desperate which have been actually relieved during the last decade or two. Among the injuries, punctured and bullet wounds and bad contusions of the bowel have been successfully dealt with; gangrenous strangulations, external and internal, with or without the removal of long pieces of bowel, have been saved; large sarcomata involving intestine have been extirpated; tuberculous tracts of intestine in a hopeless condition of ulceration have been taken away with transient or permanent relief; typhoid ulcers and perforations have been excised, and though only a small percentage of the patients afflicted with them have been saved, owing to the general condition, we must remember that the best authorities tell us that the mortality of typhoid perforation treated without operation is 98 per cent. Intussusceptions operated on at a reasonably early stage are now almost invariably successful.

But perhaps the greatest achievements of intestinal surgery have been those gained over the terrible cancers of the bowel, so hopeless and so distressing until quite recently. If we had learnt nothing more about these than that they could in most cases be successfully short-circuited, and that the patients could thereby be relieved of the immediate dangers of obstruction without the sad necessity of a permanent artificial anus, with all its bodily and mental distress, we should have won an immense boon for a class of sufferers who claim our sympathy almost above all others. But the last few years have taught us far more. We have seen that cancers of every part of the large intestine, from the caecum to the anus, can be removed with immediate success and with, at all events, as much prospect of non-recurrence as those of other parts—perhaps even greater. Indeed, this ought to be so, seeing that we are dealing in most cases with columnar epitheliomata of a low type of malignancy whose mode of lymphatic extension is through tissues well defined and accessible, and better understood anatomically than any other. In any case, the gain of several years of life, which is common now, is an enormous one, especially as the objectionable artificial anus is becoming rarer and rarer.

The greatest advance of all, however, is in the direction of dealing with those terribly distressing conditions due to cancer of the lower part of the large intestine. Since it has been demonstrated by countless cases that carcinomas of the pelvic colon and rectum, unapproachable only a few years ago, can now be removed with a good prospect of prolonged immunity from recurrence, if no more, a great load has been taken off the surgical mind. We owe to Kraske and his followers a great debt for the gift of the trans-sacral operation for the removal of cancer of the rectum. We owe him perhaps more for the working out of the combined abdominal and dorsal procedure, which he has recently advocated for some cases as a substitute for his original trans-sacral method, the defects of which he has recognized and frankly acknowledged. And as its principles and details become more and more familiar and the selection of cases follows the usual course our gratitude will, I believe, deepen. In this procedure we have not only the prospect of excising the original growth anywhere between the anus and descending colon and preserving the anus in all its functional integrity, but also of removing those parts of the retroperitoneal tissues which contain the lymphatic vessels and glands likely to be, if not actually, infected with malignant elements from the growth. Herein we are only following the principle recognized now as indispensable in all operations on cancer, whether of the tongue, breast, or other organ—that is, that it is not only necessary to the highest ideals of success to extirpate the original cancer, but also all those tissues around, in which the lymphatics run, whether visibly or tangibly infected or not. This combined method of operating on the pelvic colon and rectum is, of course, a severe procedure, and at present has a high mortality for several reasons, mostly those due to faulty technique and inexperience in the selection of proper cases. But if in the hands of the best surgeons who followed Kraske in the first few hundreds of ordinary trans-sacral operations the mortality was over 30 per cent., and has fallen since in the hands of some experts, each with an experience of several hundreds of operations, to about 10 per cent., we may surely hope for a corresponding improvement in the immediate results of the abdomino-dorsal method as it is better understood. Of the superiority of its functional results over the sacral methods there can be no question. And as to the greater immunity from recurrence, we have every reason to believe that it will be proved when we have larger numbers from which to judge after years of observation. And with so formidable and painful a malady there are numerous sufferers who would be prepared to face some extra risk from an operation which offered a larger hope on the two points of function and non-recurrence. And we must not forget that a new source of accuracy of diagnosis has come to us in the use of the Roentgen rays acting on meals mixed with bismuth and other substances. This method of examining the state of the bowel seems to promise in the future to patient and surgeon alike a large measure of help.

I have tried now to give a short review of the gradual evolution of intestinal surgery from the point of view of one who, though still in his Fifties, has seen it in his own time. This evolution has not been the result alone of the better conception of asepsis, much as we owe to it. Nor has it been due altogether to improved manipulative skill. It has resulted from clearer views on the vital processes concerned in all lesions within the

abdomen. These we have gained partly from closer clinical observation, aided by what we have learnt from the anatomist, the pathologist, bacteriologist, biologist, and physicist, and from careful sifting of our experiences, whether of failure or success.

Looking back, as I have tried to do here, and looking forward, as every hopeful man must and ought to do, we see encouragement in both directions. What has been done within the last few years in this important field of surgery, in spite of the enormous difficulties which surround it, assures us of a far greater yield in years to come, working, as we shall do, under more favourable conditions and with ever-increasing knowledge. Is any inclined to despond, thinking, mayhap, of the magnitude of the problems still unsolved and the smallness of his own individual powers of grappling with them, let him listen to the clarion note which rang out just one hundred years ago from one ranking among the greatest philosophic thinkers of his day and certainly its greatest poet:

> Wish upon wish to nobly gain,
> Wake up; behold the rising sun.
> Those lowering clouds will break in rain;
> Rend sleep's brief thrall and gird thee on.
> Rouse thee; be bold; and greatly strive.
> Heed not the falt'ring, loitering throng.
> The lofty soul can all achieve,
> Whose thought is swift, whose grasp is strong.

This appeal has since then been finely responded to by his own countrymen, though at the time almost crushed materially and inclined to be despondent. Let us see to it that we, too, undeterred by the languid interest in science of a commercial and materialistic age, press ever onward, thankful for past achievements in the interests of suffering humanity as we look backward, hopeful and courageous as we look forward to the years to come.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A CASE OF PSEUDO-DIPHTHERIA DUE TO THE PNEUMOCOCCUS.

In view of the articles by Sir Felix Semon and Dr. John Elliott in the issue of June 26th on pneumococcus invasion of the throat, the following case may be of interest.

The patient, a girl aged 8, was admitted to hospital in July, 1907, with a history of three days' illness following upon exposure to wet weather. She was certified as suffering from diphtheria, and accordingly was sent to a diphtheria ward.

When I saw her she appeared to be very ill. Her breathing was rapid and laboured, she was distinctly cyanosed, and had a hoarse cough suggestive of diphtheria. Her temperature was 102° and pulse 140. On examination both tonsils were seen to be thickly coated with a whitish membrane, and she coughed up some thick whitish material. On inspection of the chest there was seen on inspiration considerable epigastric retraction. On auscultation there was evidence of widespread bronchopneumonia in both lungs. Having regard to the state of the tonsils, the hoarse cough, and the obstruction to inspiration, the case was accepted as one of diphtheria and serum given. The question of performing tracheotomy then arose in view of the obstruction to respiration; and after consultation with a colleague I performed the operation, which seemed to relieve the patient to some extent. As the membrane seemed softer than usual, and as I had the impression that the urgency of her condition was mainly due to the state of her lungs, smears were made from the membrane. On examination of these, instead of the diphtheria bacillus there was found a pure culture of what was morphologically the pneumococcus. Accordingly the case was then diagnosed as one of bronchopneumonia, with tonsillitis and laryngitis due to the pneumococcus. The patient was desperately ill for some days, but gradually improved, and eventually made a good recovery. She was greatly relieved during the first two days, by the administration of oxygen, which was given for ten minutes every half-hour. Prior to its use she was exceedingly restless, throwing her limbs about, and jerking herself from one end of her cot to the other. After its use her colour improved, she became quieter, and was enabled to sleep.

P. HAMILTON ROBERTSON, M.B.,
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INOCULATION FOR CHICKEN-POX.

On April 4th, 1905, my son, aged 9, came home for his Easter holidays with a warning from the head master that there were cases of chicken-pox in the school; and on the evening of April 6th he developed a sharp attack, and was immediately isolated from the two other children. On April 20th (fourteen and a half days later) the youngest child, aged 4, developed a well-marked eruption.

As the boy's attack had been rather severe, leaving some pock marks on the face, I decided to inoculate the other child, aged 11, hoping that possibly the eruption might be modified in its severity and the period of incubation possibly shortened. Accordingly on April 21st, at 12.30 p.m., the second day of the eruption, I opened a vesicle on the back of the younger child, and inoculated the elder in one spot over the biceps of the left arm. Antiseptic precautions were taken, and the scratch had entirely disappeared on the third day.

On April 29th the site of the inoculation became irritable; on the morning of April 30th there was a slightly raised papule, looking as if a small vesicle had been rubbed off; no fever nor constitutional disturbance. After luncheon I had to drive her in the motor car to London, a distance of about eighty miles, and on the way she was violently sick, and seemed feverish. Next morning the temperature was 100°, and there was a general acuminated papillary eruption, with a scarcely visible vesicle at the apex. The temperature in the evening was 101.4°. The fever disappeared on the second day, the spots were fading, and the patient was quite well in five days time.

Interesting points are that the eruption was so modified as to show no likelihood of pitting, and that the incubation period was apparently much shortened.

Lee-on-Solent. DONALD SMALLPEICE.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

BEDFORD COUNTY HOSPITAL.

TRAUMATIC RUPTURE OF THE SMALL INTESTINE: OPERATION: RECOVERY.

(Under the care of Mr. W. GIFFORD NASH, F.R.C.S.)

[Reported by WILLIAM J. LEIGHTON, M.D., R.U.I., House Surgeon.]

H. S., aged 14, a farm labourer, was admitted on November 26th, 1908, at 11 p.m. He had had breakfast about 6 a.m., and some bread and butter about 10 a.m. At 1 p.m. he was kicked in the abdomen by a horse. During the afternoon he was very pale, sweated profusely, vomited several times, and passed a quantity of urine, which, so far as his parents observed, appeared to be normal.

On admission the temperature was 100.4°; the face flushed; respirations 32, gasping, and evidently painful. The heart was normal; the pulse was 138, "running," volume small, and tension low. The veins on the abdomen and chest were markedly dilated. The abdomen did not move with respiration, and was very rigid. He complained of pain and tenderness, having their maximum in the right side of the umbilical region. The flanks, especially the left, were dull; the liver dullness was normal.

Mr. Nash performed laparotomy at 1 a.m., twelve hours after the accident. An incision was made in the middle line extending from 2 in. above to 4 in. below the umbilicus. Some yellowish fluid containing streaks of blood and a little bile-stained fluid escaped. The intestines were inflamed, and on the surface were several patches of lymph. On lifting the great omentum a perforation in the intestine was discovered large enough to admit the forefinger; from the amount of bile which had escaped

the tear was apparently in the upper part of the jejunum. The edges of the rupture were brought together by a row of "through-and-through" sutures, and then buried with a row of Lembert sutures, fine silk being used in each case. The peritoneal cavity was swabbed out, the peritoneum and muscles secured with interrupted silk stitches, and the skin wound closed with silkworm gut. A large drainage tube was inserted in the lower part of the wound.

The patient was propped up in bed, and continuous saline irrigation of the large intestine was instituted. In twenty-two hours over 10 pints of normal saline were absorbed. The drainage tube was removed on the third day, when it was replaced by a gauze drain for two days more, after which the wound was allowed to close, as all discharge had ceased. He made an uninterrupted recovery, except for an attack of tonsillitis, which was prevalent in the hospital at the time. He was discharged on January 9th quite cured.

Berry and Giuseppi[1] have published an analysis of 132 cases of rupture of the intestines treated in various London hospitals between 1893 and 1907. Of these, 115 died, a mortality of 87.2 per cent.; 84 were operated upon with 17 recoveries, the remaining 48 not operated upon all died.

The most important points in diagnosis are: pain, rigidity of the abdomen, and a rising pulse-rate. With regard to treatment, early operation is, of course, the only rational method. In the after-treatment the method which gives the best results is to place the patient in a sitting position and administer copious saline enemata.

In the case recorded a very important factor was, I think, the almost complete absence of food from the stomach and upper part of the intestine, so that there was comparatively little soiling of the peritoneum.

[1] *Proceedings* of the Royal Society of Medicine, November, 1908.

Reviews.

A PHYSICIAN'S NOTEBOOK.

IN a small volume of desultory papers, entitled *Notes and Thoughts from Practice*,[1] Dr. TYSON of Folkestone discusses, from the point of view of the clinical physician, several important subjects. Every one will not agree with all his opinions, but his views are expounded temperately, and in a discursive and light way he discourses, somewhat superficially it may be, on more than one question of general professional interest. The chapter which the author devotes to food and exercise contains some common-sense reflections on the tendency towards extreme views in regard to both the one and the other. Dr. Tyson protests against the use of diet tables prepared on a cut and dry plan, and issued indiscriminately to those who are sick, without regard to the question of idiosyncrasy. He says truly: "The organs of smell and taste, like other organs of sense, are developed with varying degrees of sensitiveness in people, and the so-called 'pleasures of the table' have a real meaning to some, but not to others." He emphasizes the need for doctors themselves to take special care, since their duties, being unusually exacting, are apt to interfere with regularity in regard to meals and to encourage a careless disregard of exercise. Dr. Tyson says that "the members of our profession have more hobbies, whether they be out-of-door ones or those of art, science, or literature, than any other section of the community." It is to be feared that this is true only of certain sections of the profession—those who practise in rural districts, and those who in towns, having gained a certain measure of success, are wise enough to make leisure. It is a counsel of perfection to say: "I believe that it is a wise thing to get quite away once a week from one's work, where there is a change of air, of scene, and of people." However wise, we want to be told how it can be made practicable for all.

In two of his lectures Dr. Tyson pleads for a more accurate classification of disease, but we doubt whether his proposal that a qualifying adjective should be prefixed to a generic name will do much to advance diagnostic precision. It is conceivable that too much refinement in the way of detailed nomenclature might increase existing difficulties, and hinder rather than promote descriptive accuracy.

In dealing with the future prospects of the medical profession the author is pessimistic, holding that it is "digging its own grave," and that it must inevitably continue to do so. He says that dispensing by doctors is to a great extent abolished, a statement the truth of which we take leave to doubt; that the slighter ailments are nowadays treated, for the most part, either by the patients themselves or their friends; that nurses do midwifery and other work which previously was entirely in the hands of medical men; and that "masseuses, electricians, quacks such as corn cutters, skin specialists, and many such like, take another large share of our work." The remedies he suggests are a smaller admission to the ranks of the profession, presumably by increasing the severity of qualifying examinations; fewer honorary appointments to public institutions; co-operative methods after the club system; and State support in all branches of medicine. An emancipation from present difficulties on such lines would have many and obvious disadvantages, but the millennium is far off for medicine as for everything else, and so we must possess our souls in patience, and try to work out our salvation with what hopefulness and fortitude we can muster.

[1] *Notes and Thoughts from Practice*. By W. J. Tyson, M.D., F.R.C.P., F.R.C.S., Honorary Physician, Victoria Hospital, Folkestone. London: John Bale, Sons, and Danielsson, Limited. 1909. (Cr. 8vo, pp. 95. 2s.

TREATMENT OF PULMONARY TUBERCULOSIS.

THE interest aroused by Dr. WOLFF-EISNER'S book on early diagnosis and immunity in tuberculosis[2] is shown by the appearance of a second edition in less than a year after the publication of the first. In the new edition the work is revised and expanded, and references to papers read before the International Congress on Tuberculosis held in Washington in the autumn of 1908 are included. The earlier chapters discuss the physical examination for signs of early tuberculosis, the bacteriological examination of sputum, the so-called cytological diagnosis—that is, the inference as to the presence or absence of tuberculosis from the characters of the cells found in sputum or a suspected exudate, and the diagnostic and prognostic significance of the opsonic index. Upon all these matters readers of English medical literature are already well informed, and little need be added by way of comment upon Dr. Wolff-Eisner's views. But with regard to what he says about cytodiagnosis, we may remark that he attaches more importance than the majority of English clinicians to a preponderance of lymphocytes in sputum as a sign of tuberculous infection.

> "It has repeatedly been my experience," he says, "to find isolated tubercle bacilli, after protracted search, in sputums rich in lymphocytes, and it was this cellular character of the sputum which induced me to continue the search; often cases with sputum rich in lymphocytes have at a later period developed into manifest tuberculosis."

Whilst attaching due weight to the author's observations, we think it is hardly safe to draw a definite inference from an examination of sputum which reveals many lymphocytes but no tubercle bacilli. Greater importance attaches to Dr. Wolff-Eisner's very extensive observations on the diagnosis of tuberculosis by means of tuberculin and the significance of the ophthalmic and cutaneous reactions. He recommends the combined use of these two reactions, as the information provided by the one supplements that given by the other. For the conjunctival test the author uses a 1 per cent. solution of "Ruete-Enoch" tuberculin, and finds that a positive reaction is a sure sign that tuberculosis is present in an active form. The cutaneous reaction, on the other hand, reveals inactive as well as active tuberculosis; hence from the combined indications of the two tests it can be ascertained whether tuberculosis, if present, is in an active or an inactive stage. This difference between the two reactions is explained by the author as attributable to differences in vascularization and absorptive powers of the skin and the conjunctiva. The tuberculin introduced cutaneously is only absorbed after a long time; remaining *in situ* it can produce its local reaction even when it takes some time for the requisite antibody to reach it. But when brought into contact with the conjunctiva the tuber-

[2] *Frühdiagnose und Tuberkulose-Immunität*. Von Dr. A. Wolff-Eisner. Zweite vermehrte Auflage. Würzburg: Curt Kabitzsch. 1909. (Sup. roy. 8vo, pp. 388; with illustrations and charts. M.12.)

culin is very quickly absorbed, and therefore a local reaction can only take place when the antibody reaches the site quickly; and this postulates an active tuberculosis where, under the influence of constant stimulation, the antibodies are present in considerable quantity in the circulating blood. In advanced stages of tuberculosis, manifest on ordinary physical examination, diagnosis by either of these tests is not called for, and both tests may fail to give a positive reaction; but positive results are obtained more frequently by the conjunctival than by the cutaneous reaction. This difference is to be contrasted with the results obtained in clinically healthy persons, where the percentage of reactions is very much higher by the cutaneous than by the ophthalmic method. The author found that the significance which he attributes to the cutaneous and conjunctival reactions was to a large extent confirmed by the cases which came to *post-mortem* examination. After negative results had been obtained with both reactions, and with the exception of progressive phthisis, in which these reactions are admittedly uncertain, the autopsy generally revealed an absence of tuberculosis. Following a positive cutaneous and a negative conjunctival reaction the necropsy revealed deposits of old, healed nodules, which were encapsuled or calcareous. The author maintains a sceptical attitude towards claims to diagnose between infection by human and by bovine bacilli from alleged specific differences in the effects of tuberculin prepared from human and bovine bacilli respectively.

The appearance of a second edition of Dr. BURTON-FANNING'S little book on *The Open-air Treatment of Pulmonary Tuberculosis*[3] shows that it has been appreciated. The author has collected much information in a small compass. In the preliminary chapters on etiology the reference to various theories, sometimes contradictory, produces a sense of doubt as to whether anything is yet certain about the origin and spread of tuberculosis. When there is so much that is definitely known, it might have been better in a small book to leave out conflicting theories, or at least to offer some guidance as to which theory seems most in accordance with the author's experience. In the four years which have elapsed since the publication of the first edition little that is essential has been added to the practice of the "open-air" treatment. The theory of auto-inoculation in explanation of certain variations in the opsonic index of patients who are taking exercise justifies the inclusion in this edition of an account of Wright's work and conclusions. The book will be found interesting and instructive to all who are practising the open-air treatment of consumptives.

CHEST DISEASES.

THE medical schools of Lyons and Montpelier have been very active of late years in the production of bulky treatises on various branches of clinical medicine, and we have now to record the appearance of a large volume, the work of Professor RAYMOND TRIPIER of Lyons, presenting a series of anatomo clinical studies, in which the pathological and clinical aspects of certain diseases of the circulatory and respiratory systems are minutely examined from the standpoint of the practical physician as well as from that of the pathologist.[4] The author complains that there is a growing tendency to divorce the two branches of study which should be united, and that there has been too much straining after that which is new and too little endeavour to sift to the bottom the every-day problems which still await solution. Treatment to be successful must follow closely the successive stages of the diseased conditions—a fact which is sometimes forgotten in routine practice, where the remedy appropriate to the beginning is often applied to the late stages of the disease. Endocarditis, one of the commonest of diseases, forms an illustration of this. Although now known to be associated with a vast number of different infective conditions, the exact manner in which infection takes place is a matter of conjecture, but the fact that an initial lesion of the endocardium is almost always present is apt to be overlooked. This pre-existent affection is usually rheumatic, and the prevention of such a lesion by the vigorous use of salicylates in the very earliest stages may avert the endocardial lesion, and enable the heart to withstand the subsequent infection when it arises. The liability of the damaged valves and hinge-lines to become the seat of microbic infection is attributed, not to the greater agitation of the blood-stream at these points, but to the aggregation of infective material in the stagnant stream behind them, comparable to the collection of impurities in a ditch where it is held up by a dam. The infective origin of endocarditis is very fully discussed, but no mention is made of serum or vaccine treatment. On somewhat slender evidence it is maintained that endocarditis may have a tuberculous origin, but it is admitted that the visible lesion can hardly be distinguished from that produced in rheumatism. The inflammatory process is described as beginning with a subendothelial exudate and not from thrombus of minute vessels, the vegetation forming on the surface of the valve and undergoing slight vascularization, with subsequent fibroid change and varying degrees of thickening or shrinkage. The extent of the local lesion is no measure of the severity of the case. Aortitis and aneurysm are separately considered, while the section on arterio-sclerosis is made the occasion of a critical attack on Drs. Huchard and Teissier, who within recent years have endeavoured to establish the universality of sclerosis or xerosis in aged persons. Irregularity of incidence is characteristic of the disease, and syphilis its most frequent cause. The tendency to attribute all troubles attendant on advancing years to vascular degeneration is no doubt too common, but the general arterial change in old age is very manifest to the microscopist if not to the clinician. The latter half of Dr. Tripier's book is devoted to the study of emphysema, pleuritic adhesion, the relation between cardiac and pulmonary disease and tuberculous disease of the lung. The whole treatise will be found interesting, especially by readers who value clinical experience, but it suggests that the experience that it records must have been acquired many years ago, and seekers after modern or new ideas of treatment will not find much enlightenment in its pages.

DISEASES OF THE RESPIRATORY ORGANS.

THE first edition of Dr. SAMUEL WEST'S well-known book on *Diseases of the Organs of Respiration* was published in 1902, and much work has been done both in the scientific and practical study of respiratory disorders in the past seven years. The new edition is presented in the same form as its forerunner, and the subject matter is arranged in unaltered sequence.[5] Careful observation and analysis of contemporary work, happily blended with the personal impress of the ripe experience of the author, is equally characteristic of the present as of the original edition. Electricity, which has worked so great a revolution in modern life, has of late years been instrumental in aiding diagnosis of disease in the dark places of the body, and much new light has been shed upon the accurate diagnosis of chest diseases by means of the Roentgen rays, and still more recently by the orthodiascope and bronchoscope. These instruments and their practical application are well described and illustrated. The morbid conditions of the upper air passages have perhaps been more closely studied during the last decade than at any previous period, and the records of the Laryngological Society and Section contain abundant evidence to show that surgical interference has proved of greater service in the relief, if not arrest, of disease than has hitherto been thought possible. The section relating to it in the present work might, possibly, have been somewhat amplified, especially in relation to the surgical treatment of tuberculous disease of the larynx.

The distinctions between the two forms of bronchopneumonia, upon which the author has previously insisted, is again clearly demonstrated, and a chapter is added upon the acute suffocative catarrh originally described by Laënnec, and comparison made between it and

[3] *The Open-air Treatment of Pulmonary Tuberculosis.* By F. W. Burton-Fanning, M.D.Cantab., F.R.C.P. Second edition. Modern Methods of Treatment Series. London: Cassell and Co. 1909. (Cr. 8vo, pp. 196, 5s.)

[4] *Etudes anatomo-cliniques. Coeur—vaisseaux—poumons.* By Dr. Raymond Tripier, Professor of Medicine at Lyons. Paris: G. Steinheil. 1909. (Roy. 8vo, pp. 619; 32 figs. in the text. Fr. 10.)

[5] *Diseases of the Organs of Respiration.* By Samuel West, M.D., F.R.C.P., Physician to St. Bartholomew's Hospital. Second edition, thoroughly revised. Two vols.; illustrated. London: C. Griffin and Co. 1909. (Roy. 8vo, pp. 974. 36s.)

other acute affections of the finer divisions of the lungs and bronchi giving rise to acute dyspnoea. The probability of the presence of a bacillus and the need for continued search for it in all such cases is duly emphasized.

The exhaustive account of pulmonary phthisis which occupies the first part of the second volume contains the author's views on the newer methods of diagnosis and treatment. Like many other physicians of experience in cases of tuberculous disease of the lungs, he finds that the determination of the opsonic index has not yet proved sufficiently trustworthy for practical use. Its variation in tuberculous cases is often too great to warrant implicit reliance upon its indications. The verdict, thus far, is "not proven"; but as a scientific observation, probably destined in the future to lead to more practical results, the work of Sir A. Wright and his pupils must always hold a prominent place. Seven years of added experience of sanatorium treatment enable the author to give an analytical account of the results that have been obtained, much of which is taken from the admirable report of Dr. Bulstrode to the Local Government Board in 1908. The conclusion to which statistics lead us is somewhat disappointing. Except in very early cases, the ultimate results as regards arrest of disease do not seem to be better than those of the pre-sanatorium era. The results in very early cases are uniformly good, but in many instances it is open to doubt whether any actual disease was present, although it may have been reasonably suspected.

Of Dr. West's book as a whole we may repeat the opinion expressed seven years ago, when we commended the work as worthy of British medicine and of the great school in which its author is a teacher.

RULES FOR RESPIRATION.

Dr. HENRY HUGHES, of Bad Soden, in Taunus, has prepared a compact little handbook of instructions for the employment of respiratory exercises under various conditions of chronic disease and recovery from acute illness.[6] It is intended to supplement existing works on respiratory gymnastics by giving more precise data as to the number of respirations to be taken with the body at rest in various positions and under different degrees of active exercise. The bibliography given of the subject contains only sixteen works, mostly of German origin. As befits a work of this kind, the style is essentially dogmatic. The prescriptions and the reasons for their use are simply asserted without the production of any evidence to indicate the relative amount of success that may be expected from their use. Whether they are the outcome of experience, or merely of a vivid therapeutic imagination, is not very clear. In cases of malformation or ill-developed chest these exercises will doubtless prove useful, but the application of hard and fast rules to cases of recovery after acute diseases must be approached with caution, and there is nothing in the work before us to indicate their superiority over the ordinary processes of Nature. The book, however, contains many suggestions which will be found especially useful in the treatment of cases which are only amenable to a "cure" of some kind, and are not influenced by the dictates of common sense.

DIABETES.

AMONG many workers on the subject of diabetes there is probably no one better known than Professor R. LÉPINE of Lyons, whose contributions in the form of lectures and notes to learned societies during the past twenty years must be numbered in hundreds, and a book on diabetes[7] by him is opened with the pleasurable anticipation of finding in it the work of a master. In his preface Professor Lépine reproaches the Hippocratic method for its failure during the centuries in which it has been applied to the study of diabetes to discover its cause; but it may be rejoined that, at any rate up to the present, the experimental method cannot claim complete success. It is by no means certain that saccharine diabetes was recognized by Greek medicine, while there can be no doubt that in spite of the discovery of Willis, its existence was ignored or received little attention until the middle of the eighteenth century. The experimental method in its application to the problems of pathology has its limitations, for although it always gives a definite answer to the question, this may be so wrongly put that the answer is of little value or it may not be possible to put the question exactly, and we have to be content with an analogy. If it were not so it would not need the highest intellectual capacity and mental training to make a successful experimenter, and the progress of physiology and experimental pathology would have been much more rapid than it has. More than half Professor Lépine's book is taken up with the description of experimental work done during the last fifty years, yet he is obliged to admit at the end that the pathology of diabetes remains unsolved. We scarcely think he has fulfilled his promise in the preface to "show that, in general, diabetes is curable on the condition always that, like tuberculosis, it is treated hygienically, medically, and—why not admit it—empirically." It would really seem as if that passage had been introduced for quotation, as the text merely teaches that, except in rare instances, diabetes is a disease which can be controlled but not cured. The great defect of the book is the paucity of information under the heading of regimen; there are no model diets or lists of foods with their carbohydrate contents, which are of great value to practitioners, nor does the author clearly recognize the importance of regulating the diet quantitatively as well as qualitatively. With regard to the diagnosis of the state of the pancreas in diabetes, he mentions Cammidge's reaction, but says that, so far as he knows, it has never been seen in diabetes. He speaks more favourably of Otto Loewi's method, which is based on the fact that when a solution of adrenalin (1 in 1000) is instilled into the conjunctiva mydriasis occurs only in animals deprived of their pancreas, and that out of 48 patients, 18 of whom were diabetics, so tested, mydriasis occurred in 10 of the diabetics and in only 2 of the other 30 non-diabetics. The method is one which is worth a further trial.

[6] *Atemkuren.* With 115 prescriptions. By Dr. Henry Hughes, of Bad Soden, in Taunus. Würzburg: Curt Kabitzsch (A. Stuber's Verlag). 1909. (Demy 8vo, pp. 58.)

[7] *Le diabète sucré.* Par R. Lépine. Paris: Félix Alcan. 1909. (Roy. 8vo, pp. 720. Fr.16.)

NOTES ON BOOKS.

AN INDIAN LUNACY MANUAL.

MAJOR R. BRYSON, F.R.C.S.E., of the Indian Medical Service, has accomplished a useful work by compiling a manual in which are given the laws and regulations affecting the admission into asylums, the detention and discharge of private, public, and supposed lunatics, European and native.[8] The information concerning these classes of insane persons is set forth clearly and systematically, the authority being quoted in the margin, and the forms in use and laws in force are appended in detail. The manual refers mainly to the Madras Presidency. With some alterations and additions it might be made applicable to other parts of the Indian Empire, and it seems very desirable that this should be done, the regulations peculiar to the Central Provinces being indicated by different type from those affecting all provinces. Magistrates and medical men will find this manual most serviceable, and it may be consulted with advantage by those who are concerned in the disposal and maintenance of insane relatives and friends.

[8] *The Indian Lunacy Manual for Medical Officers: A Summary of the Lunacy Acts and Rules regulating the admission into, detention in, and discharge from Government Lunatic Asylums of Private and Public Patients.* Compiled by Major Bryson, F.R.C.S.E., I.M.S. Madras: The R. Vivekananda Press and Higginbotham and Co. 1908. (Sup. roy. 8vo, pp. 40. Annas 8.)

SUCCESSFUL VACCINATION.—Dr. W. F. Sheard, Public Vaccinator, Putney district, has been awarded £67 13s. by the Local Government Board for successful vaccination. This is the eleventh award made to Dr. Sheard.

A VACATION course, consisting of forty-one lectures and demonstrations, and lasting a month, is to commence at the Post-Graduate College, West London Hospital, on August 9th. The course is free to yearly or perpetual students of the college, the fee to others being two guineas for the full course and a guinea and a half for a fortnight. A syllabus of the lectures and other information can be obtained on application to the Dean.

EPSOM COLLEGE.

A LARGE gathering of friends of Epsom College assembled on Saturday, July 24th, to celebrate Founder's Day. Amongst those present were the Earl of Rosebery, President of the College; Sir Henry Morris, Treasurer; Sir William S. Church, Chairman of Council; the Right Hon. Sir Walter Foster, M.P., Sir Constantine Holman, Dr. W. Collier, Dr. F. de Havilland Hall, Dr. F. Needham, Mr. W. A. Propert, Dr. G. Rankin, and Dr. Frederick Taylor.

Distribution of Prizes.

After a service in the College chapel, and the unveiling by the Rev. Canon Curtis, an old Epsomian, of a window erected therein by old Epsomians and others in memory of the late Archdeacon Thornton, the first Head Master of the College, the prizes were distributed in the schoolroom.

In his address dealing with the progress of the school since last Founder's Day, the HEAD MASTER drew attention to the great advantages resulting from the new buildings which the Council had provided, especially the "Markham Skerritt" science block, which was erected through the generosity of Mrs. Markham Skerritt, who has just passed away. He also referred to other buildings in course of erection, including a new gymnasium and a music block, both of which will be greatly appreciated. He said that some of the Deans of the London hospitals were coming down that day to inspect the buildings and the facilities for teaching science. In reference to teaching the elements of science to very young boys to the detriment of such important subjects as English, French, and Latin, he felt sure this was undesirable. If boys were sent to the college properly grounded in these essential subjects, they could then be thoroughly taught science. He observed that in eight years no fewer than 46 Epsom boys had passed the whole of the preliminary scientific examination of the University of London, and 33 boys had passed a part of that examination.

Speech by Sir Walter Foster, M.P.

Sir WALTER FOSTER gave away the chief prizes, and at the conclusion of the distribution addressed the boys. After tendering to Sir Henry Morris his cordial congratulations on the honour of a baronetcy which had been recently conferred upon him, he expressed his pleasure at visiting the College, observing that he had known its founder, John Propert, who accomplished a great result by self-reliance and self-denial, which result stood before them in that institution. He was pleased with all he saw at the College, and congratulated the council on the excellent arrangements provided by them for the teaching of modern science. He said that a public school reminded him of the House of Commons. The fascination which the House had for the middle-aged man was due to the fact that it brought back to him the days of his youth. There, as at school, each man had a definite task, was under discipline, and had his hours—but they were sometimes very bad. Some members worked hard, and others could idle a little. One great resemblance between the House of Commons and a public school was that work was respected, and seldom failed to win a prize when it was associated with ability. After referring to the importance of a healthy mind in a healthy body, he said he was struck by the beauty of the surroundings of the College and the opportunities provided for healthy and invigorating games. It was not necessary, however, to be an athlete: that was not the end and aim of teaching, and in a civilized community muscle always counted less than brain. He placed before the boys the importance of devotion to duty, though duty, in order to be done well, required something more than mere mechanical adherence to rule. It should be done with foresight and knowledge, and when done well it lifted the man from the rut of his fellows. He wanted every boy to feel that in the performance of duty well and wisely done he would be contributing in the most effective way to the good of his country. He was pleased that science took a leading part in the curriculum of the College, and was also pleased to know that the head master considered classical teaching to be the best way of building up vigorous mental power. He said, in conclusion, that a great work was left to the present generation, and Epsom College was helping to do that work, and would take a deservedly high place amongst the public schools of England.

Vote of Thanks.

Sir HENRY MORRIS, the Treasurer of the College, proposed a vote of thanks to Sir Walter Foster for his kindness in attending that day to distribute the chief prizes and to address the boys, the resolution being carried by acclamation.

Parade of Rifle Corps.

At the close of the proceedings refreshments were served in the grounds of the College, where the members of the Rifle Corps, numbering 133, paraded. It is interesting to note that 80 per cent. of boys in the school able to join the Rifle Corps are members. The Director of Military Training reports that at the annual inspection the drill movements were well executed and the words of command were correct and good; the discipline appeared to be good, the turn-out was good on the whole; the signalling messages were correctly sent and received, and the clothing, arms, and equipment were in good order. The contingent has therefore been recorded as "efficient" as regards inspection.

Memorial Window to Archdeacon Thornton.

The window which has been erected in the College chapel in memory of the late Archdeacon Thornton is on the south side of the chancel. It is designed to illustrate the events of Easter Day, the Archdeacon having died on that day. The three scenes are Christ's appearance to Mary Magdalene in the Garden, "Touch me not"; the supper at Emmaus, "He was known to others in breaking of bread"; and Christ's appearance to St. Peter, "The Lord is risen indeed and hath appeared to Simon." The upper tier of lights contains single figures of Apostles and teachers suggesting different ideas of ministerial work, St. James, St. Peter, and St. Timothy, the proposal being to continue a series of figures in the other chancel windows. In the tracery lights are the arms of the University of Oxford and of St. John's College, Oxford, to which the late Archdeacon Thornton belonged.

ANOTHER ANTIVIVISECTION CONGRESS.

THE fourth triennial International Congress of the World's League for the Protection of Animals opened on July 19th and came to an end on July 24th. The congress is said to have been supported by the British Union for the Abolition of Vivisection, the Church Antivivisection League, the Independent Antivivisection League, the Letchworth Antivivisection League, several branches of the London and Provincial Antivivisection Society, and the League for the Abolition of Vivisection, Vaccination, and Inoculation.

Lady PAGET welcomed the delegates on behalf of the English branch of the World League. She hoped that "unity" would be the watchword of antivivisectionists all over the world.

Miss A. L. WOODWARD, honorary organizing secretary, said the most cordial relations existed between English antivivisectionists and the Continental branches of the League, practically every one of which had sent delegates. Previous congresses of the World League had been held at Gras, Paris, and Helsingfors, and she hoped that the present congress, which was the fourth, would be as successful as the others.

We give a running narrative of the proceedings condensed from various newspapers.

"Down with Vivisection."

Professor FÖRSTER, in his opening address on "Our Position with Regard to Vivisection," said that only thirty or forty years ago European nations became acquainted with the cruel and monstrous proceedings of scientific men described in the word "vivisection." Conscientious and logical animal protectors did not doubt for a moment that this new foe had to be opposed. Victor Hugo cried: "La vivisection est un crime," and religiously considered it to be a mortal sin against the Divine command. Lord Shaftesbury and Frances Power Cobbe called it "an abominable crime." The scientific question, he said, was only a secondary one. Whether vivisection had ever aided science, or ever would aid it, was an open question that might comfortably be left to experts, like other technical questions. The battle of vivisection would not be decided on that field, where opinions would ever differ.

For them the question was for ever decided when they separated it from all secondary considerations, and placed before them the one decisive thought, "It is an evil, unjust, sinful, and therefore to be cast away." The plague had spread over the whole world, and every means must be employed to fight it. They would have nothing to do with compromise with an evil thing and evil men. They had no reason to swerve from their demand for total abolition. Even diplomatically and politically they would make more progress by the strongest defence of their rights than if they wavered from the straight line and gave way to the enemy. The example of England had shown them that half measures and Government inspection were of no help at all. "Down with vivisection" must ever remain their battle-cry.

The Value of Opposition.

Dr. HADWEN said that the Council of the Société Protectrice des Animaux of Paris had passed a unanimous resolution for the abolition of vivisection, which showed how their cause was spreading, and that the great humanitarian feeling was in the ascendant. The most encouraging sign was that they had so much opposition. The more opposition was brought to bear against them the more their cause would succeed.

Inquests after Operations.

Miss ANNIE GOFF (Copenhagen) said the public should know the number of deaths after operations, and the coroner's right to hold inquests in such cases should not be tampered with, despite what the medical profession might say. The public had a right to know what a person had died from after an operation, for clearly such a death was not natural. If the Departmental Committee inquiring into the law regarding inquests reported in favour of the coroner the Home Office would overrule it in some way or other.

Dr. HADWEN said that he had given evidence before the Departmental Committee, and pointed out that 10,000 persons were buried every year without any statement whatever being made of what they died from. Cases had come to his own knowledge in which a coroner had certified death on the evidence of an ordinary constable.

The Brown Institute.

Dr. E. HAUGHTON read a paper on the Brown bequest for the benefit of diseased animals. It was sixty years, he said, since the money had been bequeathed, but experiments on animals went on, and the purpose of the testator was not being carried out. He called on the Senate of the London University to make a new and searching inquiry into the matter, and he suggested an agitation until a satisfactory arrangement had been made at the institute in the Wandsworth Road.

Dr. HADWEN said that he had been informed by counsel that nothing could be done in the matter of the Brown Institute unless an action at law was taken.

Antivivisectionism and Parliament.

Mr. ROBERT CAMERON, M.P., as one who was in his eighty-fourth year, said his chief regret was that the antivivisection movement had not received the approval of the House of Commons. Nothing that scientific men had discovered had balanced the evil effects of the system which made them callous to dumb and helpless creatures dependent on mankind.

In Defence of Vivisection.

Dr. MORGAN JONES, of Ilford, obtained permission to defend vivisection. Cruelty and torture, he declared, were repugnant to every civilized human being. Animals were killed for food and dress, and if they inflicted pain on animals for these purposes, they might also inflict less pain to prevent suffering and to prolong life. Much useful scientific knowledge had been gained by vivisection. Dr. Snow, in his evidence before the Royal Commission, had defended even painful experiments under certain circumstances. In this country no operation involving an incision was allowed unless the animal were anaesthetized. Not less than 96.6 per cent. of the experiments were inoculations, and the great bulk of these took place in municipal laboratories in the interests of public health. If antivivisectionists had their way, and the Government made it illegal to use any remedy obtained by experiments on animals, the result would be that all municipal laboratories and every hospital would be closed. All Lister's work was the result of experiments on living animals. What would antivivisectionists suggest in their place? "You fight for dogs and guinea-pigs," he concluded; "I fight for men, women, and children."

Dr. HADWEN, in reply, said it was easy to make rash statements, but another thing to prove them, and this Dr. Jones had not done in a single instance. What Dr. Snow had said he was sorry for afterwards.

Antivivisectionism in Austria.

Madame PAULA MONDRA said that scarcely one man in ten thousand knew what vivisection meant. The Austrian Antivivisection Union suggested that the congress should accept a proposal to combat vivisection by means of public lectures, with cinematograph demonstrations of experiments on living animals.

Antivivisectionism and Scientific Stupidity.

Dr. WALL said that vivisectionists claimed that they had done good in cases of diphtheria and tuberculosis, but these were mere assertions unsupported by any proof. There was a large section of the public which unfortunately swallowed these assertions with ignorant eagerness.

Professor FÖRSTER contended that conscience was much more than science. Between man and animals there was no demarcation, and antivivisectionists were engaged in a war against scientific stupidity.

The Brown Dog of Battersea.

"The Brown Dog of Battersea" was the subject of an address by Alderman WORTHY, who said that in November there would be an attempt to turn out the Progressives at Battersea, and he wanted help to retain them, because on the other side there were one or two persons who would do their best to get the fountain removed. If it were removed he hoped that not only London and England would noise their protest, but foreign countries as well.

Condemnation of Bull-fights.

Miss WINIFRED LEE said that unfortunately the bulk of the foreigners in Spain could not be said to exercise a good influence in that respect, since they did not set a good example by boycotting the bull-rings as they should do. Sad to say, some English people became so accustomed to the horrid sight that they went again and again. Bishop Cabrera, the Protestant Spanish Bishop in Madrid, told her that the bull-ring at San Roque, near Gibraltar, was mainly kept up by the receipts obtained from English-speaking people.

The following resolutions were passed:

1. This congress declares that bull-fights should be abolished in the interests of God's creatures, and that foreigners visiting countries where they are practised should refuse to attend them.
2. This congress also urges on all societies for the prevention of cruelty to animals the duty of opposing to their utmost the introduction of bull-fights into their town or country.
3. In view of the many bull-fights now taking place in the western and southern parts of France the presidents of the French societies be requested to use their efforts to put a stop to this shocking cruelty.

Prohibition of Vivisection.

Sir FRANCIS CHANNING, M.P., who presided, said that in the present age they saw what one might almost call the diabolical ingenuity concentrated in the perpetual expansion of gigantic machinery for human destruction. That was the spirit of the age which they had to combat in pleading for the lives of animals. He held that all the knowledge that could be obtained through vivisection and the torture of animals could be gained by simple, clinical observation.

A resolution was carried in favour of the prohibition of vivisection, which was declared to be morally unjustifiable.

Closing Demonstration.

The congress closed with a demonstration in Hyde Park, in which the foreign delegates and representatives of between thirty and forty organizations connected with the antivivisection movement or the cause of kindness to animals took part.

Archbishop BAGSHAWE proposed the following resolution:

> This meeting, believing vivisection to be morally unjustifiable, earnestly desires its prohibition by law.

The MAYOR OF BATTERSEA supported the resolution. They all knew of the Brown Dog memorial at Battersea. A constable was placed on duty to guard that memorial day and night, but it was a waste of public money, inasmuch as the children of the locality constituted a watch-dog over it and would prevent any secret attack upon it. The memorial was, in fact, a powerful and splendid medium for making the children acquainted with the antivivisection movement.

The resolution was carried unanimously.

LITERARY NOTES.

MESSRS. METHUEN will almost immediately publish a new work by Mr. Frank Podmore, entitled *Mesmerism and Christian Science: A Short History of Mental Healing.*

Mr. Edward Arnold announces that a second edition of Dr. T. D. Savill's *System of Clinical Medicine*, corrected and revised by the author, will be issued in one volume about September 1st.

In a communication which appeared in *Notes and Queries* not long ago, Mr. Stanley Williams, of Queen's College, Oxford, cites the following letter which he says may be found in Cal. S.P. Dom. 1665–6, vol. clii, 180:

> From Lidlington, March 5th, 1665.
>
> There being now a person condemned in Bedford Goall, for unfortunately striking a Tobacco pipe into ye eye Brow of a Man who is since Dead, And ye person prosecuted by one sole witness, being a Woman generally knowne by a very lose and debosht Life, And since Sentence passt, a Gentle woman Surgeon of sound judgment and good repute, has been before severall Justices of ye County (being much troubled in mind she was not calld to the Barr to give her evidence) which she is since ready to attest on oath—that she first drest the Person of his wound and soe continued her care to ye Last, and that the wounded person dyed noe more of that wound that of a Cutt finger.
>
> They desire a reprieve. And so on. . . .
>
> Signed, BEDFORD.
>
> THO. SNAGE, high sheriffe. HENRY CHESTER. HRD. WINGAVE.

Mr. Williams is rather exercised about the "gentlewoman surgeon." He says the letter affords grounds for speculation as to what she was in her everyday capacity, and how she gained the knowledge which earned her the reputation she seems to have acquired. Mr. Williams does not seem to be aware that the art of healing was practised by women not only in ancient Greece and Rome, but in most other countries. According to Dr. Payne, among the old Germans medicine was largely practised by women; and Tacitus relates that warriors wounded in battle brought their wounds to their mothers and wives to be attended to. Such, he says, may have been the custom of the heathen Saxons in England, but no record of it remains. At a later period in the Middle Ages, however, mention is often made of noble ladies as skilful surgeons. In the old ballad of "Sir Cauline," when a wounded knight is brought to the castle, the King calls out:

> Come down, come down, my daughter deare,
> Thou art a leech of skill.

Again, in an English medical MS. of the fourteenth century, Dr. Payne has found a prescription described as composed by Lady Beauchamp, the Earl's wife of Warwick.

In a paper read before the St. Louis Medical History Club, and reprinted in the *Aesculapian* for December, 1908, Dr. George Homan discusses the medical qualities in the writings of St. Luke. His essay is mainly founded on the work of the great Biblical scholar, Harnack, who after a critical examination of all the available evidence has come to the conclusion that St. Luke was really a physician thoroughly versed in the medical learning of his day. Harnack says that St. Luke's profession seems to have led him to Christianity, for he embraced that religion in the conviction that by its means and by quite new methods he would be enabled to heal diseases and expel evil spirits—above all, to become an effective physician to the soul. When St. Paul at Caesarea appealed from Festus unto Caesar (Acts xxv, 11), he was sent thence under guard to Rome. His health being infirm, St. Luke went with him as his physician, and was with him to the end. St. Paul says: "Only Luke is with me," a statement which, Dr. Homan says, tends to establish his medical character. It may be, he thinks, that St. Luke's life was spared on account of his calling. Harnack points out that while all the four evangelists mention that at the seizure of Christ, St. Peter struck off the ear of Malchus, St. Luke alone says that the ear was restored and the wound healed by the miraculous act of Christ. In those days Greeks with religious interests were disposed to regard religion mainly in connexion with healing and salvation. Harnack says:

> A combination of characteristic signs will compel us to believe that the author was a physician, if the description of the particular cases of disease show distinct traces of medical diagnosis and scientific knowledge; if the language, even where questions of medicine or of healing are not touched upon, is coloured by medical phraseology, and if those passages where the author speaks as an eye-witness medical traits are especially and prominently apparent. These three kinds of tokens are also found in the historical work of our author. It is accordingly proved that it proceeds from the pen of a physician.

Dr. Homan remarks that St. Luke nowhere claims for himself the possession of miraculous powers, or speaks of their exercise by him; it is only as a possible onlooker, or as a chronicler, that he takes note of cures wrought in disregard of all physical laws as now known or understood in medical doctrine—"a possible compromise between the science of the physician and the faith of the disciple."

There is a curious passage in Augustus Hare's *Sussex* relative to the practice of touching for the King's Evil, which may be of interest to those among our readers as care for old customs and superstitions. One gathers from it that the power to heal lay not only in the touch of the royal hands, but that garments once used by a king were believed to possess the same efficacy, even after their owner's death. One of Charles I's most devoted friends was Sir John Ashburnham, of Ashburnham Place, near Battle, who was his groom of the bedchamber in days of prosperity, and his faithful companion in adversity. Sir John never forsook his royal master and was present on the scaffold at Charles's execution. His fidelity was rewarded by the gift of the blood-stained shirt with ruffled wrists, marked with a crown and C.R., in which the King had died, his white silk drawers, his watch and key, and the sheet that had been used to cover the royal corpse. Ashburnham took them home, where he built a church (now the parish church of St. James), in which for many years the relics of the martyr king were exhibited; and people came from all parts of the country to touch them in the hopes of a cure. So strong was the belief in their efficacy that as late as 1828 a boy touched for King's Evil in the church, and the shirt was last used for that purpose in 1860. The relics were removed finally to Ashburnham Place, not, says Hare, on account of the superstition attached to them, but because they were in danger of being stolen. He also mentions another Sussex superstition, this time peculiar to Winchelsea. The town is close to the marshes, which are full of ague, called "Old Johnny" by the shepherds, who guard themselves against it by hanging round the neck a triangular piece of paper containing the following lines:

> Ague, I thee defy:
> Three days shiver,
> Three days shake,
> Make me well for Jesu's sake.

In a work published not long ago, M. Cros-Mayrevieille gives an interesting account of public medical service in antiquity. Greek legislation anticipated to some extent the Minority Report of the Poor Law Commission by making the doctor a functionary paid by the State. We gather from a passage in Xenophon's *Memorabilia*, however, that the medical service in ancient Greece was looked upon as open to all who thought they had a vocation—such as that attributed by Mr. Montagu Tigg to his friend Chevy Slyme—to live at the public expense. He records the following frank declaration made by one candidate for the post of medical officer at Athens:—

> Certainly, O Athenians, I have never learnt the medical art, and have never sought for one of its professors to be my master. My great anxiety, indeed, has always been not only to learn nothing from the doctors, but even not to appear to have learnt the art. Nevertheless, grant me the post of public officer which I solicit. It is at your risks and perils that I will try to get my medical education.

This is the kind of candidate who would be approved of by certain enlightened politicians of our own day.

British Medical Journal.

SATURDAY, JULY 31ST, 1909.

THE PRESIDENT'S ADDRESS.

SIR WILLIAM WHITLA'S Presidential Address was delivered before a crowded audience, conspicuous in which were the Lord Lieutenant of Ireland and the Countess of Aberdeen. It is published at page 249. In it is given a most interesting history of the evolution of the Belfast Medical School, and of the men who laid the foundations of the stately edifice which the members of the Association present at the annual meeting have had the opportunity of seeing this week. Each of the founders and master builders who helped to bring the work to completion receives a felicitously-worded tribute of praise; the genius and character of each are painted with a hand as skilful as it is sympathetic. James McDonnell, who founded the first fever hospital in Ireland, and who brought into existence the Belfast General Hospital, was a many-sided man, the results of whose energy and foresight are embodied in the Belfast General Hospital and the Natural History Museum. The Belfast Medical School had its beginnings in a humble way in 1820, but it was not till 1835 that it was firmly established. Among its early professors were Thomas Andrews, whose chief work was done in the domain of scientific chemistry; Henry MacCormac, father of Sir William MacCormac, for whom the President claims the credit of having been the man who first put into practical shape the open-air treatment of phthisis; Alexander Gordon, whose name is known to every surgeon in connexion with the treatment of fractures; Peter Redfern, still happily with us, who made Belfast famous as a school of anatomy; James Cuming, the brilliant teacher and writer, who was President of the Association in 1884. These men stamped a character on the School which it has never lost, and Sir William Whitla is fully justified in saying that from the first it has been marked by "an originality of thought, an "earnest and conscientious recognition of its high "mission and intense practical trend," and that these qualities still remain its chief distinguishing features after almost a century of patient and noble work.

But the President, while giving its fair meed of praise to the past, is mainly concerned with the present, and all who are interested in medical education will read with interest what he has to say about the curriculum as it is, and the modifications which are to be adopted by the University of Belfast. Like many of us, he is not well satisfied with the curriculum as it usually operates in practice, and he holds that the establishment of a new university, untrammelled by the past, is an opportunity for introducing reforms which should not be missed. In his own words: "It behoves us periodically to review our "position as regards the teaching and the practical "training of those desirous of joining our ranks"; and further: "Radical reform in the curriculum is urgently "necessitated by the enormous growth of scientific 'facts and theories," so that "all authorities agree "that a medical curriculum which was planned forty "years ago is entirely out of date."

While he is not unmindful of the efforts, to a large extent successful, of the General Medical Council to keep up a progressive modification of the requirements of medical education, Sir William Whitla holds that there is now an opportunity to make, in common with the University of London, a step in advance. It was long ago pointed out by Professor Huxley that the medical curriculum was overloaded, and he was prepared to sacrifice in part his own special subject of biology. Now Sir William Whitla's dissatisfaction goes the length of making him say that, after more than a quarter of a century of experience as a teacher, he is constrained to believe that, in sending men out qualified immediately to enter upon the routine practice of their profession, we, in some respects at least, fail to secure the results obtainable in the old days of apprenticeship. We note that he uses the word "obtainable" and not "obtained," a distinction probably made of full intent, and we do not gather that he has any leaning towards a revival, even partial, of the apprenticeship system. But we well know what was in his mind; we are fully cognizant of the difficulty experienced by the newly-fledged practitioner, and perhaps still more acutely felt by those who may employ him as an assistant, in making the change from hospital practice, the only practice he has seen, to private practice. For in the hospital an elaborate machinery was working smoothly; the patients were tractable; pathological laboratories were at hand; dispensaries were very liberally equipped and worked by experts, and nursing was highly organized and supervised; all this was so much a matter of course that he learnt almost instinctively to take it for granted. But when he turns to private practice he finds that he has to give his individual attention to all these things, and it may take him a year or two to learn to do so with ease to himself. Moreover, he has gained little acquaintance with the minor ailments which bulk so large in private practice. Nevertheless, medical education must not be written down a failure, for it is beyond all question that the capacity of the average practitioner the country over is far higher than it was thirty years ago.

With the reforms foreshadowed by Sir William Whitla we are in full agreement. Briefly, they may be said to be two: First, that the so-called preliminary subjects should be curtailed by being taught, from the commencement, with close regard to their bearing on medicine and on practice; and, secondly, that a clear period of three years after disposing of these subjects should be devoted to the final subjects.

The statistics collected by the General Medical Council have shown that not much less than seven years is the time consumed by the average student in obtaining his qualification, and a good deal of the delay occurs over the preliminary subjects. Yet we have the dictum of Professor Starling that his education fails, and must necessarily fail, in making him "scientific" in the true sense of the word. It will therefore be profitable to see what reforms are proposed and how they may be carried out, considering the new regulations of the University of London, which has set the lead, and those of the University of Belfast as foreshadowed by Sir William Whitla. It is proposed to teach anatomy from the outset from the standpoint of medical and surgical anatomy, and to eliminate from it much of the detail of the bones and

their muscular attachments, and the like details. Physiology, too, is to be taught with strict reference to practical medicine, and the same direction towards their ultimate particular application is to be kept well in view in all the preliminary subjects. This is not a new ideal; indeed, it is one which in theory has never been lost sight of, although in practice we have got away from it more widely since the teaching of the preliminary subjects passed out of the hands of the medical and surgical staff of the hospitals into the hands of specialists in the several subjects. We would not for a moment suggest that subjects are not best taught by those whose knowledge of them is deep, even though the teaching may be restricted to their elements; but from this one point of view of strict adaptation to practical medicine there is a danger, not imaginary, but only too real, that the specialist's teaching may tend to a treatment of a subject as complete in itself, and not as the handmaid of another science.

The difficulty lies, then, not in the acceptance of the ideal set forth by Sir William Whitla, but of its practical realization. For we cannot hope that the student will grasp, say, the complexities of physiological or pathological chemistry without having been led up to them by learning the simpler conceptions of inorganic chemistry; and it will tax the ingenuity of our teachers to the utmost to determine how much grounding is indispensable before attacking the applied science. And we fear that our President is a little optimistic when he expresses the opinion that, under the new teaching, the average student will be able to dispose of his physics, chemistry, biology, anatomy, and physiology in the first two or two and a half years of his course. With regard to physics and chemistry, the Belfast University has offered an encouragement to schools to increase their science teaching by including them as optional subjects in the matriculation examination. Biology, too, is to be so taught as to assimilate it to elementary physiology.

We have often expressed the opinion that it would be a great boon if these subjects could be made an indispensable part of the entrance examination, and this view is endorsed by Sir William Whitla. He holds, however, that their special application to medicine must still be taught in academic courses, the school teaching being looked to as supplying an excellent start. With this view we fully concur. But it has been shown by the Education Committee of the General Medical Council that the requisite facilities for this sort of science teaching do not yet exist in a sufficient number of secondary schools; hence any change in the direction of compulsorily shifting chemistry and physics to the period of school career cannot as yet be entertained.

It will be seen that the changes in medical teaching foreshadowed are in pretty close agreement with the various recommendations of the Education Committee of the General Medical Council, upon whose latest report we propose shortly to offer some comments. Meanwhile we wish every success to the new departure on the part of the Universities of London and of Belfast, especially as it offers some remedy for the encroachment of the preliminary subjects upon the time intended to be devoted to the final subjects. For it is notorious that the addition of a fifth year of study, intended by the General Medical Council to be devoted to clinical work, has in effect been appropriated by the earlier subjects, and no real increase in the time devoted to the final subjects has been secured.

THE ADDRESS IN MEDICINE.

THERE is a special appropriateness in the selection of Dr. Philip to deliver the Address in Medicine at Belfast. No man has done more than he to demonstrate the soundness of the principle of the modern treatment of tuberculosis which was urged on the profession by Henry MacCormac, of Belfast, half a century ago. MacCormac, though a pioneer of the open-air treatment, was not the first to preach the gospel of the open window. He had at least one forerunner in George Bodington, who in 1840 published a small book entitled *The Treatment and Cure of Pulmonary Consumption*. In that work Bodington condemned the practice of "shutting the patients up in a close room, "to exclude as far as possible the access of the "atmospheric air, and thus forcing them to breathe "over and over again the same foul air con- "taminated with the diseased effluvia of their "own persons." After referring to the inhalation of medicated gases, he goes on to say: "The only gas "fit for the lungs is the pure atmosphere freely "administered without fear; its privation is the most "constant and frequent cause of the progress of the "disease. To live in and breathe freely the open air, "without being deterred by the wind or weather, is "one important and essential remedy in arresting its "progress; one about which there appears to have "generally prevailed a groundless alarm lest the con- "sumptive patient should take cold; thus one of the "essential measures necessary for the cure of this "fatal disease is neglected, from the fear of suffering "or incurring another disease of trifling import." Bodington laid stress on the need of generous nourishment, but the great remedy was, he held, the free use of a pure atmosphere. The cold, he said, is never too severe for the consumptive in this climate: "The cooler the air which passes into the "lungs, the greater benefit will the patient derive. "Sharp frosty days in the winter season are most "favourable. The application of cold pure air to the "interior surface of the lungs is the most powerful seda- "tive that can be applied, and does more to promote "the healing and closing of cavities and ulcers of the "lungs than any other means that can be employed." Bodington was the founder of the sanatorium system, which he held to be the only means of dealing successfully with consumption. Speaking of medical practitioners who take cases of consumption under their charge, he says: "If they are to succeed, they "should have country houses in proper situations, "well ventilated, and provided with all 'appliances and "'means to boot,' where their patients should be under "their own eyes, and strictly watched and regulated "in all respects as regards exercise, air, diet, and "medicine, etc.; or, there should be a certain class of "practitioners who should exclusively pursue this "practice as a distinct branch, to whom those in the "large towns should confide their consumptive "patients, instead of sending them, as many now do, to "take their chance, or probably to fall into the hands "of mercenaries at some distant seaport, where they "commonly die, far away from friends and home. With "respect to the consumptive poor patients, those who "cannot afford to pay for a proper treatment of this sort, "hospitals should be established in the vicinity of "large towns, in fit situations, and properly appointed "in all respects for their reception and treatment. In "these there should be provision made for affording "them carriage or horse exercise, and gardening and "farming occupations for the convalescent. The

"common hospital in a large town is the most unfit "place imaginable for consumptive patients, and the "treatment generally employed there very inefficient, "arising from the inadequacy of the means at com- "mand." Nothing could be more definite or explicit than this. Bodington's teaching, however, fell upon deaf ears, or rather upon ears not ready or perhaps willing to hear. His system was killed by a phrase. Sir James Clark, then regarded as an authority on consumption, called it "the beefsteak and porter system," and the reviewers of the day joined in ridicule of the man who was so far ahead of his generation. Another pioneer was Benjamin Ward Richardson. But in medicine, as in every other province of thought, the seed of new ideas is too apt to fall among thorns which spring up and choke it, or upon stony places where it dies. A striking instance of this is the treatment which Henry MacCormac received at the hands of his brethren. In 1855 appeared the first edition of a book on consumption, in which he said: "It is the state of "the indoor air, and very particularly the bedroom "air, and not the condition of the outdoor atmosphere "at all, that is to account for the production of the "malady. A sufficiently renewed indoor atmosphere, "and particularly a sufficiently renewed bedroom "atmosphere, together with active, and particularly "active, outdoor habits, will render life wholesomer "in general and freer from consumption even in "towns, than it will prove in the most admirably "circumstanced country residence with ill-aired "rooms and passive inactive habits. For action, "coupled with a pure atmosphere, tends to life and "health, whereas inaction and unrenewed rebreathed "atmosphere but insure irreversible decay and death." Elsewhere he says: "I assert and declare with all "the emphasis in my power that in the immense "majority of instances of tubercular deposits the "sleeping chambers have been habitually closed." And again, "Pure respiration is the law of life; "impure respiration is the law of death. . . . Tubercle, "then, and tubercle-engendered maladies, are pre- "ventable. The means—means sure and certain— "subsist at every door." After affirming that night air as such never injured any one, he goes on: "The air should be admitted into every room until the air "within shall be as pure and fresh as beneath the free "Heavens themselves. As for myself, I have slept for "long years with my chamber window open. For "years my family and every one whom I have been "able to influence have done so likewise, not only "with impunity but with every conceivable imaginable "advantage." MacCormac declared that the idea of a hospital for curing consumption was a "pathological "solecism." "In hospital air," he says, "indoor "air of any kind, unless most carefully and "ceaselessly renewed, serves but to foster tuber- "culous disease." But MacCormac, too, was as one calling in the wilderness. In 1862, when his views were brought before the Medico-Chirurgical Society of London, the paper was characterized by one illustrious being as a waste of time; another inquired whether it had been referred to a committee before being read to the society; a third asked that the society should be protected against the reading of such productions. So strong was the disapproval of the society, that the customary vote of thanks was refused. The incident is another illustration of the truth which has often been insisted upon in this JOURNAL, that the "superior person" is one of the great obstacles to the progress of medicine. The British profession laughed at Bodington, and refused to listen to MacCormac. The result was that the "white plague" continued to walk among us unchecked, and when the open-air treatment was at last forced upon us, the credit of the discovery was given to a German.

But it is not only the rejection of the open-air treatment that stands as a reproach against the medical profession. Long before, it had turned its back on the truth which it had once received, that the disease is communicable. Dr. Philip touches lightly on this point, which is one of the most interesting and instructive in medical history. Consumption was believed to be infectious by Aristotle and by Galen. The belief was long universal among physicians. Several of the sixteenth and seventeenth century writers expressly refer to the fact, and in the eighteenth century Morgagni writes that he was careful to avoid infection from the bodies of consumptives in the deadhouse, where he laid the foundations of morbid anatomy. His words are: *Ego vero illa (sc. cadavera phthisicorum) fugi de industria adolescens et fugio vel senex.* In the early part of the same century stringent enactments as to notification and disinfection in cases of phthisis were made in Barcelona, Saragossa, and elsewhere. About the middle of the century phthisis was a notifiable disease in Tuscany, and regulations, with heavy penalties attached to the breach of them, were issued as to disinfection of rooms, furniture, and clothes after a patient's death. It is interesting to note that even then some notion of the therapeutic value of fresh air existed in the minds of the Florentine authorities, for it is ordered among other precautions to be taken in cases of phthisis, that "from time to time free ingress of air "should be allowed into the patient's room." The danger of infective sputum was also recognized, for it was enjoined that consumptives should not spit anywhere except into special vessels of glass or glazed earthenware, which were to be emptied and washed frequently. The Republic of Lucca and that of Venice passed similar ordinances. In 1772 the Sacra Consulta of Rome issued a circular to all governors in the States of the Church urging them on no account to allow the sale of the clothes of persons who had died of consumption, that "pernicious communicable "disease" (*il pernizioso communicabile morbo di etisia*). In the kingdom of Naples stringent enactments as to disinfection were made in 1782. As late as in 1834 we read that consumptives were separated from the other patients in a Neapolitan hospital

But already in 1754 we find that there was some doubt on the subject in the minds of the leaders of professional opinion. The fact that repeated ordinances were issued serves to show that the law was treated by doctors as a dead letter. Among the people, however, the belief in the infectiousness of consumption lingered long after it had been thrown aside as a superstition by the profession. In 1803 Chateaubriand, writing from Rome, after announcing the death from consumption of a lady whom he knew, says: "I am in "great embarrassment; I had hoped to sell my car- "riages for 2,000 crowns, but as, by a law dating from "the time of the Goths, phthisis was declared a con- "tagious disease at Rome, and Madame de Beaumont had "ridden two or three times in them, no one was willing "to buy them." In Spain, as late as in 1839, the great composer Chopin, who was consumptive, was treated as if he had been a leper. The belief persisted into our own day not only in the South of Europe, but in some

parts of the North. Yet so obstinate in its unbelief had the profession become that when Villemin, in the early Sixties, proved the inoculability of tuberculosis, the "Princes of Science" in his own country treated the discovery with contempt. It was not till Koch, in 1882, conclusively showed that the disease is due to a special bacillus that the mists of error which blinded the profession were dissipated.

Since that time progress has been steady, and in the advance Dr. Philip has been a leader. The sanatorium, which dates from Hermann Brehmer's foundation at Görbersdorf in 1859, has become a part of national hygiene in every civilized country. To Dr. Philip belongs the credit of having initiated the tuberculosis dispensary system, which has had such far-reaching effects, educational as well as therapeutic. Now the importance of the prevention of tuberculosis is acknowledged by those who hold in their hands the destinies of nations, and a combined war of extermination is waged against the disease. But much remains to be done before the victory is won. Dr. Philip's address places the pathological and practical problems that still await solution in the clearest light. Not only the profession but the public owes him a debt of gratitude for the part he has played throughout the campaign, and not least for his latest effort to spread the light on a matter which vitally concerns the welfare of the nation.

THE ADDRESS IN SURGERY.

IN the land of his birth Mr. Arthur Barker has reviewed with pride the progress in intestinal surgery which began in his own lifetime. *Cujus pars magna fui*, he might rightly say of his personal relation to that progress; indeed, he demonstrated in a manner highly instructive to his hearers, and to those who can now read the address in the columns of the JOURNAL, that from the beginning he took nothing for granted. Mr. Barker, who was born in days when surgeons held the peritoneum in such awe that they feared to touch it, rightly reminds us that it was Spencer Wells, "the father of abdominal surgery," who dared to lay open that great serous sac and found that it possessed wonderful powers of repair when untainted by septic material. Mr. Barker points out that it soon became evident that Wells's cases often recovered when the peritoneum had been exposed to infection during operation and had included septic elements in its cavity after the abdominal wound had been closed by the operator. Thus it became manifest that the peritoneum tolerated, neutralized, or destroyed septic material. The attention of surgeons was turned to the vermiform appendix, the treatment of "perityphlitis," as it was usually called, being unsatisfactory forty years ago. Yet in those days many cases got well. Now the disease in question was found to be infection of the peritoneum from the vermiform appendix, and since clinical research showed that this infection was not necessarily fatal, it was seen that the peritoneum could dispose of infective material. From those days until now surgeons have devoted much time to researches to determine the resisting powers of the peritoneum and other serous membranes. Chemical antiseptics were soon found to be superfluous. The lymph thrown out from the serous surface had long been recognized as a salutary agent, a barricade protecting the serous cavity beyond the seat of injury or infection. Unfortunately, men who defied the peritoneum and knew that its lymph was an ally, still dreaded the fluid which was poured out into its cavity under traumatic or bacterial irritation. Many of us, we may add, remember Wells's "toilet" of the peritoneum, that sponging which often caused what it was intended to prevent. As fluid collected in spite of, or rather, because of, the sponges, surgeons took to the drainage tube. Many cases did well, but later research proved that the good result was due to quite other causes than the free escape of exudation. Mr. Barker is an authority on the action of drains and the fallacies still prevalent about drainage. His observations on that subject, based on a large experience, are of great weight. A serous cavity kept closely sealed can take care of itself. The process of serous inflammation is essentially bactericidal, or can be made so by the aid of some very old-fashioned therapeutical agents.

Thus the peritoneum can bear a great deal and can resist a great deal. This fact explains the progress in intestinal surgery, which formed the subject of Mr. Barker's address. Some of his clinical and surgical experiences are very interesting. Perhaps the most striking are his remarkable cases of successful resection of bowel for tuberculous peritonitis and extensive gangrene of intestine without any kind of drainage. He felt sure that prolonged attempts to render the abdominal cavity more ideally clean either by flushing or sponging, such as would have been made a few years ago, would not only have been futile but injurious to the defensive works of the peritoneum. Let us all ponder on the last eight words of Mr. Barker's remarkable statement.

The dread of the migration of septic germs from the alimentary canal into the peritoneal cavity is very reasonable, but it has retarded the progress of intestinal surgery. Research, however, has calmed the fears of the operator. Healthy intestinal walls, Mr. Barker reminds us, prevent the migration of germs, but, when the vitality of those walls has been damaged, septic bacteria pass in quantities through the serous coat, as is observed in the fluid in a hernial sac. On the other hand, the surgeon can unload the alimentary canal of much septic material by laxatives and enemas, destroy septic germs by intestinal antiseptics, and prevent the entrance of more germs by the cleansing of the teeth, mouth, and pharynx, and by diet. When intestine has been resected, the surgeon must not starve the patient. The deep sutures resist peristalsis for days; lymph protects the serosa around the line of suture; and, on the other hand, Mr. Barker teaches us, permanent union will be the more perfect the better the patient is nourished. Fluid nourishment is absolutely needed, as it aids the kidneys in carrying off toxic matter which has accumulated in the system as a consequence of the condition for which the intestine was resected. Where no food can be given by the mouth, as when vomiting results from anaesthesia, enemas or subcutaneous injections of normal saline solution are of high value. With regard to anaesthesia, Mr. Barker recognized that it must be pressed when the peculiarly sensitive parietal peritoneum is being manipulated, while it may be reduced or actually omitted during the handling, resecting and suturing of the practically insensitive intestine. As these manipulations take up much more time than the preliminary and concluding steps of the operation, the patient, when anaesthetized after these reasonable principles, is saved from several great perils due to the charging of the blood or respiratory tract with chloroform or ether. It is too soon to predict with any certainty whether the employment of local and spinal

analgesia will ultimately eliminate some of the risks following general anaesthesia.

Many other bold surgeons besides Mr. Barker have resected great lengths of small and large intestine without any apparent influence for evil on the processes of digestion and assimilation, but he uttered a word of warning about certain recent developments in intestinal surgery. He admitted, on personal experience which he himself related, that after the resection of the entire large intestine excepting the rectum, a patient may be restored to robust health and live for years. He was speaking of operations for malignant disease, but when defending these he was careful to add that it was quite another thing to advocate resection of the large intestine for less serious conditions, such as chronic constipation. He said more, for he declared he had no personal experience of resection of the colon for constipation, and was not concerned with the controversy about that point. Lastly, returning to the question of malignant disease, he admitted that radical procedures aiming at the permanent cure of patients subject to malignant growths in the intestine are essentially good surgery and not merely displays of operative skill. Intelligent boldness and thoroughness, such as Mr. Barker indicated in his address, have brought intestinal surgery to its present relatively high development, and the same principles will advance it yet further; but we must never allow the knife to replace the laxative and the enema in affections of the intestine in which medical and therapeutical agents are known to hold out a good prospect of cure.

THE ANNUAL MEETING.

CHURCH SERVICES.

THIS year the custom of commencing the scientific proceedings by religious services in the leading churches, attended by the President and members in state, was waived in favour of informal but special services on the preceding Sunday. One of these, attended by the President-elect, Sir William Whitla, and a large number of members, took place in the Cathedral, the Right Rev. the Lord Bishop of Down, Connor and Dromore (Dr. Crozier) preaching the sermon, and taking "Luke, the beloved physician" (Coloss. iv, 14), and "Only Luke is with me" (Tim. iv, 11) as his text. The presence, he said, of the British Medical Association led him to say to the people assembled there that there was no class of men to whom the human family owed more in mind and body than to the skilled physicians of the land. In our own day, how marvellous had been their work in the alleviation of pain and the prolonging of life! They remembered, for instance, Simpson, the inventor of chloroform; Lister, of antiseptic dressing; Jenner, of vaccination; Pasteur, of inoculation; and now there were the brave men who were waging war against lupus, consumption, cancer, sleeping sickness, and so on. Then they could recall with gratitude how God made the great medical man referred to in his text to be "an evangelist and physician of the soul." In two scholarly volumes, just published, Professor Harnack, of Berlin, had convincingly proved that to this physician we owed the Gospel called by his name and the Acts of the holy Apostles. In the opening words of his Gospel, St. Luke related how he set himself diligently to examine into the evidences for the Christian faith. He dealt with the evidence as a true scientist. There was one class of evidence on which St. Luke was peculiarly qualified to speak—namely, the cure of physical disease and suffering, to which he himself had devoted his life. Disease that no doctor's skill had ever cured yielded to Christ's touch. At His word the blind saw, the leper was cleansed, and the dead man was raised to life. And, like a wise scientist, St. Luke set himself to examine into these things and to discover the conclusions based upon them. A careful study of the Acts of the Apostles would convince them that St. Luke had accepted the Christian faith long before he came into contact with St. Paul, and that it was St. Paul's illness at Troas which first brought them together as medical man and patient. St. Paul's three recorded meetings with Luke synchronized exactly with three dangerous illnesses of which he spoke—at Galatia, Troas, and Jerusalem—and on the last occasion the beloved physician seemed to have finally attached himself to St. Paul's company, and never parted with him till the end came. The Gospel of St. Luke showed how a godly and earnest layman found God in his ordinary occupations and pursuits. Business and diligence in business did not of themselves make them forget God, but too great absorption in business did. Science and philosophy did not hide God from the soul, but too great absorption did. Some of the greatest scientists, like Luke the physician, had also been holy and humble men of heart. In their own time they could point to Lord Kelvin, who had taught them that

> The chain of second causes,
> However long it be,
> Has yet one link we call the last;
> 'Tis held, O Lord, by Thee.

Absorption in any pursuit blinded the eyes and dulled the ears to the presence and voice of God. Therefore, they of the kindred profession, whose calling was "the cure of souls," must thank God for the godliness and godlikeness of the great mass of medical men. Since his ordination he had been brought closely into contact with medical men, and had worked loyally in comradeship with them. They had invited and encouraged the clergyman's visits to the sick; they had recognized the sick man's spiritual as well as his bodily needs. He had seen much of the devotion of their medical men, their skill and self-sacrifice, even unto death. The relation between Christianity and the healing art never was closer than at the present time. There had been disease and suffering in every age and in all lands, but at no time had such patience and skill and love been devoted to its cure. The sacredness of the body, as Christ had taught it, was at the root of it all. No medical man would do or sanction to be done anything to the poorest patient that he himself would not submit to under like circumstances, and this followed from the example of Christ, who was the great Healer as well as the great Preacher to the sons of men. He concluded with the words: We bid you welcome here to-day as men and women fired by the love of God with a holy passion for sick and suffering humanity.

A corresponding service was held by arrangement with the Presbytery of Belfast in the Fitzroy Avenue Presbyterian Church, the preacher being the Rev. David Purves, D.D., who took as his text: "They that "are whole have no need of a physician, but they that "are sick" (Mark ii, 17). After describing the work of Christ as a healer of the sick, he said disease and sin were evils to be got rid of, for God was at war with them. This raised the whole subject of the relations between religion and medicine, of which they heard much to-day. They were sometimes told that the work of the Church was too one-sided, and that in order to fulfil the ideal of the Gospels and the practice of the early Church

they must regain lost gifts of healing. To be more concrete, there had arisen a movement, hailing from America, the object of which was to take the wind out of the sails of the cult called Christian Science, by attaching to the spiritual department of the Church a "psycho-therapeutic clinic," in which there should be a delimitation of the work of the spiritual and the medical adviser, the practical result of which was that to a certain extent the priest took the rôle of the physician. In actual working, and in relation to those diseases where the functions of the doctor and the clergyman seemed to merge, an arrangement was come to between representatives of the two professions whereby disorders of the nervous system which were functional rather than organic, and which might presumably yield to spiritual rather than medical treatment, were left to be treated accordingly. The church clinic during the week, therefore, became a consulting-room, where to the treatment of troubles that bordered on those of the soul, but sprang from various causes, moral and spiritual, means were applied, sometimes conversation and prayer, at other times what was known as "suggestion" and hypnotism, but always after a preliminary agreement between the clergy and the doctors whether the case was for the one or the other. Now, one could well understand what considerations had led to this experiment being made, and appreciate the pure and lofty motives of the leaders of this movement. Nevertheless, he could not but think that it was fraught with serious dangers, and rested on a grave fallacy. The fallacy was that of supposing that the religious leader was in any way bound to take up the rôle of physician, and the danger, to put it bluntly, was the old one of the confessional. In the absence of statistics it was impossible to estimate the good or otherwise which the movement had effected, but there was evidence in what might be called the official textbook of the movement, entitled *Religion and Medicine*, that more was claimed for it than there was evidence to support. Granted that certain ailments on the border-line had yielded to moral and psychical treatment, there was an absence of convincing proof that the cures said to have been effected by this semi-religious and semi-psychical treatment could not have been accomplished in some other way. The theoretical basis of the movement was a modern philosophy, which put forward a somewhat extravagant claim, and the practical treatment had been carried out by the use of means involving a somewhat perilous relation between the adviser and the patient. There seemed to be more of the confessional than the consulting-room in this modern church clinic. The lesson it taught seemed to be that there were cases on the border-line of disease in which the clergyman might with advantage be requisitioned by the physician, but that was a different thing from the clergyman taking up the rôle of the doctor. A wise physician might note—and they were sure he often did—that the patient was really in soul trouble, and he would in that case refer him to his minister; and, conversely, a wise clergyman might see that the patient would get more real help in the doctor's consulting-room than in his vestry. Let them collaborate, by all means, but their respective spheres should be kept distinct. In remote districts where doctors were scarce it had sometimes been of advantage to a minister to know a little about medicine, and the combination of the medical man and the missionary in one person had worked well in the mission field. But, speaking for himself, he had not infrequently seen ministers playing the part of amateur physicians in a way that had made mischief. And he felt that they ought thankfully to recognize that the healing ministry of the Master towards the bodies of men was being carried on to-day by the members of a noble profession, of which it was not too much to say that it was the way in which Christ was carrying forward His beneficent activity in the world. They entered fevered homes and hospitals with the healing of His seamless robe; they worked the miracle of surgery with a skill and science which had come from Him; they were, whether they realized it or not—and many of them did—the healing Christ in the modern world.

Reference to the scientific work of the Association was also made by the Rev. James Allen at the Donegall Square Methodist Church, who took as his text three passages from the Epistle of St. Paul to the Colossians, iv, 14, "Luke, the beloved physician"; Philemon 24, "Luke, my fellow-worker"; and 2 Timothy iv, 11, "Only Luke is with me." He and his congregation would pray God's blessing upon it, for it would be a glorious thing if during the week some hint was dropped which would lead by patient investigation to the discovery of means of robbing of their terror some of the diseases which now work havoc. Continuing, the preacher dealt with the facts of Luke's life, and showed the close comradeship which existed between him and the great Apostle of the Gentiles. This mutual ministry suggested some thoughts which were not inappropriate in view of the meeting in their midst of so many members of Luke's noble profession. That two men of such outstanding ability and of marked culture found all they desired in the service of Jesus Christ reminded them that the service of humanity's Christ offered the very noblest sphere for men of the most marked ability and the highest culture. Let not any one dream that his gifts, however exceptional they may be, would decorate the altar; rather would the altar sanctify the gifts. Luke, had he remained at his profession in disobedience to God's call to become a medical missionary, would probably have filled a foremost place amongst the medical men of his day, and within a generation no one would have known who he was. Because he yielded to God's call his name is a household word to-day around the globe. The comradeship, the mutual ministry of the physician and evangelist, suggested how only the needs of the world would be met. Sin and disease were the twin ravagers of human life. A gospel which dealt with sin and ignored disease left untouched vast tracts of human need, whilst a gospel which dealt with disease only and ignored sin was of all gospels the most helpless. In conclusion, the preacher pointed to Christ as combining both the evangelist and the physician in His ministry, and urged all, according to their gifts and opportunities, to follow His example.

THE ARRANGEMENTS.

MOST members attending the meeting had this year to face a sea passage, and hence, perhaps, started unusually early. In any case, things seemed to get into swing much more promptly than at most meetings. The reception room officials were kept busy all day on Monday, and by Tuesday afternoon, when, as a rule, the stir is only just commencing, over seven hundred members had already reported their arrival. They found the most excellent arrangements for their personal comfort, and the success of the scientific work. The Queen's University is just far enough away from the centre of the town to be free from noise, is easily reached by frequent tramcars in charge of a peculiarly civil and obliging set of men, while footfarers found the Belfast policeman as intelligent

and ready a guide as his London analogue. The same spirit seems to animate all classes. Inside the building it was clear that things had all been carefully thought out by the Executive Committee, with Sir William Whitla at its head, and Dr. Cecil Shaw as its Honorary Secretary. The rooms of the building had appropriately been selected according to the work of the Section for which they were named, and there was plenty of comfortable accommodation in the way of writing, smoking, and waiting rooms, and finding any particular department was made easy by direction boards. Finally, moving about the city and investigating the neighbourhood was facilitated by a neat map attached to members' cards; of particular service, too, was a most interesting handbook, ably compiled for the occasion by Dr. Robert Johnstone. To spare members the trouble of going down town for luncheon or tea a tent was provided in the grounds of the college, in addition to a luncheon room in the Exhibition Building. The arrangements for ladies were equally thoughtful, the Registrar of the College having kindly placed his official residence at their disposal, and motor cars having been provided to take them for drives while the more serious work of the meeting was in progress. As for the weather, this, too, might be regarded as favourable. Though disposed to be showery, it was pleasantly cool, and there was a charming absence of dust. Everything, therefore, seemed to presage a most agreeable meeting, and one of great utility on the scientific side. Nor, need it be said, were social amenities lacking. The Union and Reform Clubs, the Boating, Golfing, Yachting, and Bowling Clubs had elected visitors honorary members. Even before noon on Tuesday organized entertainments had commenced. These were led off by a visit to one of the places which have helped to make Belfast famous—the York Street flax weaving works. Later there was a visit to the up-to-date Abbey Sanatorium, an inspection of the docks by invitation of the Harbour Commissioners, and a reception at the Mater Infirmorum Hospital. In the evening an organ recital by Dr. Mulholland preluded the Presidential Address, delivered in the presence of an assembly of some two thousand. It was a notable scene, to which additional *éclat* was lent by the presence of the Countess of Aberdeen and a speech by the Lord Lieutenant, whose apt eloquence was no surprise to those who remember his address on a similar occasion at Montreal. Immediately after the arrival at the College of Their Excellencies on Wednesday morning to attend the Section of Hygiene and Public Health scientific work was in full swing.

PRESENCE OF THE LORD LIEUTENANT AND LADY ABERDEEN.

ON glancing at the work of the Sections on the first day, the palm of greatest success must be awarded to that of Hygiene, for it was attended both by the Lord Lieutenant and Countess Aberdeen, the Vice-Chancellor of the University (the Rev. Dr. Hamilton), the Lord Mayor of Belfast and Lady Mayoress, and the President of the Association. Their Excellencies were awaited at the college gates by a guard of honour drawn from the Belfast University Contingent of the Officers' Training Corps under command of Captain Cunningham and Lieutenant Steeman, other officers present being Lieutenants Browne, McCallum, Clark, and Brennan. In the vestibule they were welcomed by the Reception Committee, with Sir John Byers at its head, and by a number of other officials, including the three local Honorary Secretaries, Drs. McKisack, Cecil Shaw, and Howard Stevenson. Addressing Their Excellencies, Sir John Byers expressed the gratitude felt by the British Medical Association at the compliment paid to itself, and through it to the whole medical profession, by Their Excellencies coming to Belfast to attend the meeting. Nothing could augur better for the settlement of great national and civic problems concerning the welfare of the people than such recognition by the highest officers of the influence and value of a practical and scientific body like the British Medical Association. Sir John also alluded to the fact that the Lord Lieutenant had been for some time an honorary Member of the Association, and he expressed the hope that very shortly the name of the Countess of Aberdeen would be added to its roll of honour in recognition of her splendid efforts to improve the health of the Irish people. Various presentations were then made, after which the party moved to the Section of Hygiene, where Dr. Louis Parkes, in his opening address, dwelt on the evils of intoxication and alluded to the prevailing ignorance of the value of fresh air. This ignorance was being combated and decreased among the poorer classes by bodies such as that of which Lady Aberdeen was President—namely, the Women's National Health Association of Ireland. It was to these and allied efforts that they must look for the creation and maintenance of a common-sense attitude towards hygienic problems of daily life. Specifically alluding to the presence of Their Excellencies, he said the British Medical Asssociation took the greatest interest in Lady Aberdeen's work, because it knew that in Ireland tuberculosis was relatively more common than in England. It believed that by work such as her ladyship was undertaking it would prove possible to reduce Irish death-rates to the level of those of the sister countries. Lord Aberdeen also spoke. Questions of hygiene, he said, came home to every one, even if merely because all were conscious of the oppression caused by badly ventilated rooms. In all that had been said by Dr. Parkes as to the value of open windows, and the part played by unsound ideas as to open air in preventing deterioration among urban populations, there was something which must appeal as true to every body. The Women's Health Association, including its president, would feel gratified and encouraged in its work by the appreciation of its efforts expressed by Dr. Parkes on behalf of the medical profession.

LATER in the morning Their Excellencies attended the delivery of the Address in Medicine, in which Dr. Philip dealt with an analogous subject—namely, progressive medicine and the outlook with regard to tuberculosis.

PRESENTATION TO MR. SINCLAIR WHITE.

THE members of the Association in Sheffield recently presented to Mr. Sinclair White, who was elected to the vacancy in the office of President caused by the lamented death of Mr. Simeon Snell, a very handsome badge of office consisting of a gold medallion enamelled with the arms of the City of Sheffield, and bearing the recipient's crest above. Around the arms is a fillet bearing the title of the office, and on the back is an inscription relating the occasion of the gift.

DELEGATES FROM COLONIAL BRANCHES.

THE following were the delegates appointed to attend the meeting by Colonial Branches:—Bombay Branch: Captain E. F. Gordon-Tucker, I.M.S. Burmah Branch: Major N. P. Lalor, I.M.S. British Guiana Branch: Dr. R. Carter. Colombo and Ceylon Branch: Dr. H. G. Thomasz. Gibraltar Branch: Dr. A. W. Dowding and Major H. A. L. Howell. Hong Kong and China Branch: Dr. J. H. Sanders. Melbourne and Victoria Branch:

Drs. A. V. M. Anderson, R. J. Bull, G. C. Mackay Matheson, and G. A. Syme. Natal Branch: Drs. James Hyslop and D. Campbell Watt. New Zealand Branch: Drs. W. E. Collins, A. W. Izard, J. H. E. Jarvis, H. J. M'Lean, C. G. F. Morice, and W. H. Unwin. South Australian Branch: Drs. Melville Jay and M. J. Symons. South Indian and Madras Branch: Surgeon-General P. H. Benson. Sydney and New South Wales Branch: Drs. Richard Arthur and O. Maher. Transvaal Branch: Dr. G. Michie. West Australian Branch: Dr. Ashton.

FOREIGN GUESTS.

A LARGE number of visitors from foreign countries are attending the meeting, some as guests of the British Medical Association, some as members. The former include Professor Jerimann Fehling of Strassburg, Professor E. Fuchs of Vienna, Dr. C. Jacobs of Brussels, Professor Francesco Sanfelice of Bologna, Professor W. J. Bordet of the Pasteur Institute, Brussels; Dr. V. Delsaux of Brussels, Dr. Louis Wickham of Paris, Professor D. Bryson Delavan of New York, Professor W. Gordon Byers of Montreal, Professor C. H. Hughes of St. Louis, U.S.A., and Drs. J. K. M. M'Lennan of Winnipeg, Lomax Swathmey of Norfolk, Virginia, Herbert Old of the same city, A. J. Knapp of Indiana, U.S.A., C. A. Samborn of California, and Charles Rohen of Brussels; Professors Sonnenburg and Greef of Berlin; and Professor Calmette of Lille. The Association had also had the honour of attracting to its meeting the Lord Lieutenant of Ireland and the Countess of Aberdeen, who arrived in time to listen to Sir William Whitla's Presidential Address and to attend the first meeting of the Section of Hygiene and Public Health, which was holding a discussion on the compulsory notification of all forms of tuberculosis. The Association is also extending its hospitality to several distinguished representatives of general science resident in the British Isles, but not members of the British Medical Association, among these being Professor Milne, of seismological fame, and Professor E. A. Letts and Mr. R. F. Blace, F.C.S., of Belfast. Among the members of the Association who live abroad but have come home for the meeting, though not as delegates of Branches, are Drs. Thomas Gibson of Ottawa, E. L. Marsh of Shanghai, B. J. Eccles of Johannesburg, D, W. Samways of Mentone, Leonard Robinson and C. G. Jarvis of Paris, Reeve of Toronto, Ferguson of Cairo, Wilmore of Alexandria, G. C. Strathnairn of Uganda, and O. E. M'Cutcheon of Jalpaiguri, India. There are also attending the meeting a considerable number of officers of the Royal Army Medical Corps and the Indian Medical Service, and a few who belong to the Medical Department of the Royal Navy.

THE ANNUAL EXHIBITION.

THE annual exhibition of medical and surgical desiderata is well situated this year, and should be a great success from the point of view of exhibitors. From that of members of the Association its success was assured from the moment the doors were open, for it is very ready of access and well ventilated, and there is plenty to see. Moreover, the band is not too loud, and the floors being covered with thick carpeting, neighbouring conversations do not interfere with the explanations given by the stall-holders of their various wares. Finally, there is a good luncheon and tea room in one of the rooms of the exhibition building, in addition to the tent which serves the same purpose close to the main university buildings. All classes of medical and surgical appliances, drugs, foods, and furniture are well represented, the characteristic of the exhibition as a whole, perhaps, being its strength in stalls devoted to modern medical literature. In this connexion a new feature is the exhibit of the BRITISH MEDICAL JOURNAL, where sundry volumes of reprints of special articles which have appeared in its columns are on view, and where a brisk sale of *Secret Remedies: What they Contain and what they Cost*, seems to be going on. Altogether there are some 90 firms exhibiting, and though most of them bear names which are already very familiar to medical men, there is practically no stall on which some novelty in the way of ingenious and useful application of science to manufacture is not to be seen. The exhibition will continue open until 6 p.m. on Friday evening, and it is to be hoped that every member will contrive to visit it, since occasions on which so much that is new can be seen and thoroughly examined with so little trouble are rare. The exhibition may be regarded as a mine of new ideas, for manufacturers of to-day are so much on the *qui vive* in matters scientific that every fresh suggestion in the way of treatment is promptly seized and made practically available to every one, often almost before medical men who are too busily engaged in the cares of practice to be constant attendants at the scientific meetings of Branches and Divisions of the British Medical Association, or of other medical societies, have even heard of them. Our detailed account of the various exhibits commences this week (see SUPPLEMENT, page 162). This first notice is necessarily brief, and only refers to a very small proportion of the stalls; it is hoped, however, that a notice of all the more attractive features of the exhibition will have appeared before the end of the coming month.

MEDICAL LIBRARIES.

A SPECIAL and most attractive feature of this year's meeting is a collection of ancient books and manuscripts dealing with medicine, which is housed in one of the rooms of the Engineering Department of the college. It represents the first fruits of a body which has only just sprung into existence—namely, the Medical Library Association. The British Medical Association may fairly claim some share in its creation, for it appears that the conception of the body dates from the meeting at Sheffield last year. Those immediately responsible for the germination of the happy underlying idea are, we understand, Dr. I. Walker Hall of Bristol and Dr. Cuthbert E. A. Clayton, who interested various people in the project, and are now acting as honorary secretaries of what since Wednesday morning is a fully fledged association, which, very appropriately, has Professor William Osler as first president. The objects of the association are: (*a*) To bring together those engaged in, or interested in, medical libraries and medical literature; (*b*) to maintain an "exchange" for the distribution of duplicate books and periodicals; (*c*) to increase the facilities for reference work; (*d*) to encourage the study of the history of medicine, and (*e*) to issue publications dealing with questions relating to the principles and details of medical library work. The annual subscription is only half a guinea, and judging by the very large assembly which attended the first meeting, and listened to Professor Osler's address on the medical library as a factor in post-graduate work, the society would seem to have a very successful future before it. Its full objects and value will perhaps be better understood when we have published Dr. Osler's address. Meantime some reference to the contents of the exhibition may be made. The works as a whole were divided into sections. Two MSS. in Section 1 called for special attention—an English one of the fourteenth century on urine (lent by the Manchester Medical Society), and another on the same subject, about the same date, in Latin and

Irish (lent by Trinity College, Dublin). Section 2 contained fifteen volumes, printed before 1500, amongst them the first edition of *Celsi de medicina liber* (Dr. Lloyd Roberts), the works of Mesuë, 1478 (Bristol Corporation), the surgery of Guy de Chauliac, 1480 (Manchester Medical Society), and the *Anathomia* of Mundinus, 1493 (Dr. Lloyd Roberts). Amongst the books printed since 1500, Section 3, were two editions of Raynalde's *Birth of Mankind*, 1528 and 1613 (Dr. Lloyd Roberts and Bristol Medical Library), Faier's *Regimen of Lyfe*, 1567, Paynel's *Regimen Sanitatis Salerni*, 1541 (Dr. Lloyd Roberts), and a pamphlet on *Variolous Contagion*, 1808, by Jenner (Professor Lindsay). An exceptionally fine collection of books by Irish authors or printed in Ireland formed Section 4, lent principally by Dr. Kirkpatrick, of Dublin, and the Royal College of Physicians of Ireland. Professor Osler had lent two interesting collections of books relating to Michael Servetus—whose quatercentenary occurred this year—and Ulrich von Hutten, the scholar-knight, who wrote upon syphilis as observed in his own person. The last section contained a series of books on consumption, commencing with Celsus, who recommended open-air treatment and the use of milk, and ending with the Countess of Aberdeen's *Ireland's Crusade against Consumption*. This exhibition, which is attracting much attention, is to remain open the whole of the week.

OTHER ASSOCIATIONS.

As has been the case at some previous Annual Meetings, the British Medical Association offered facilities this year to other bodies to hold gatherings. It is a courtesy which is highly appreciated, since occasions on which actual and possible members are all to be found assembled in one town in such numbers are rare. This year the Irish Medical Schools' and Graduates' Association held its summer general meeting, and gave what is becoming a standing feature of the meetings of the British Medical Association—namely, a luncheon party. It took place at the Medical Institute on Wednesday, the chair being taken by the president, Dr. A. Mouillot, of Harrogate, an old Trinity College man. The National and Irish Temperance Leagues combined also gave a breakfast, issuing invitations to be present to all and sundry. Another body commonly to be met at Annual Meetings of the British Medical Association, which has its head quarters at Paris—namely, the Anglo-American Medical Society—arranged a luncheon party for Thursday, with its honorary president, Professor Osler, in the chair. There was also a new comer, in the shape of the recently-organized Medical Library Association, which held a numerously-attended meeting early on Wednesday morning. Reference to its proceedings is made elsewhere.

SOCIAL FUNCTIONS.

ON Tuesday Sir William Whitla entertained at luncheon in the Medical Institute, Belfast, a large number of guests to meet the members of the Council of the British Medical Association. After luncheon the host proposed the toast of "The Council," coupling with it the name of Mr. Edmund Owen, and congratulating the Council on being able to retain the services of Dr. J. A. Macdonald. Mr. Owen replied, and Sir William Whitla then gave "The health of Mr. Sinclair White," who very briefly acknowledged the compliment. The Bishop of Down, who, with the Lord Mayor of Belfast, was among the guests, proposed "The health of Sir William Whitla," which was very warmly received and briefly acknowledged. The President's garden party, the annual dinner, and the ladies' reception at the Opera House all proved brilliant successes. A little rain fell on Wednesday afternoon, but not enough to interfere with the pleasure of Sir William and Lady Whitla's guests at Lennoxvale. The magnificent grounds surrounding the house are in themselves particularly well suited to outdoor entertainments, and the Pierrots' music and life-saving demonstrations given in the lake by the Ulster Branch of the Royal Life-Saving Society were thoroughly enjoyed. The Lord Lieutenant and Lady Aberdeen were present at the party, and in the evening while His Excellency attended the annual dinner, to which reference is made elsewhere, Lady Aberdeen presided at the ladies' reception. During a long *entr'acte* between the two playlets, excellently performed by the Ulster Literary Society, Her Excellency left her box for the stage and addressed a short speech of welcome to the guests. Afterwards she caused to be thrown on the screen a series of limelight pictures illustrative of the work of the Women's National Health League, and herself gave a description of the import of each picture. A feature of all entertainments up to the present has been their very large scale. Over 500 persons were present at the reception at the Mater Infirmorum Hospital; on Tuesday there were 1,700 at Lennoxvale, and approximately 2,000 at the Opera House. To some people a better idea still of the size of the gathering will be conveyed by the fact that at the ladies' reception during the short tea interval, sixty-seven quarts of ice-cream, in addition to countless cups of tea, coffee, lemonade and the like, disappeared in less than twelve minutes. The Sassenach, therefore, can scarcely fail to be convinced that the tales he has heard of Irish hospitality are no myth.

ENTERTAINMENTS.

THE amusements in progress, apart from daily golf and bowling, a cricket match on the ground of the North of Ireland Cricket Club on Thursday, and yacht racing at Cultra on Friday, include visits to various industrial undertakings of general importance. Among these are Messrs. Workman and Clark's shipbuilding Works; the Belfast Rope Works; Messrs. Gallaher's Tobacco Factory, where visitors will learn something of Irish twist tobacco; Messrs. Shaw Brown and Co.'s Damask Works at Edenderry; and the famous distilleries worked by Messrs. Dunville and Co., who are entertaining a very large contingent of members at luncheon. Another entertainment of the same general order is a visit to Messrs. Harland and Wolff's gigantic shipbuilding yards, where among other trifles members will see a keel over 800 ft. long, which is to form part of a vessel of no less than 50,000 tons. There are also numerous garden parties to the fore, the first being one given by the President and Lady Whitla at Lennoxvale House on Wednesday, a day which ends with the Ladies' Reception at the Opera House. Thursday sees an afternoon reception given by the Chairman of the Royal Victoria Hospital, Mr. James Davidson, and a civic reception given in the strikingly handsome building known as the City Hall by the Lord Mayor. On Friday the Royal North of Ireland Yacht Club is "at home" during the progress of the special races for members, and Cabin Hill, the residence of Mr. R. J. M'Mordie, at Knock, is the scene of a garden party given by him. Finally comes what is likely to be the *chef d'œuvre* of the meeting, so far as amusements are concerned, this being the evening entertainment in the Botanic Gardens, given by the President and Members of the Ulster Branch of the British Medical Association. The tale, however, is not yet complete, for on Saturday, when, formally speaking, the meeting will have been over

for nearly a day, there are to be sundry excursions to interesting spots. Some will visit the Giant's Causeway, others the Glenariff Glen and Garron Tower, and others, again, the Mourne Mountains and Carlingford Lough. Clearly, therefore, members of the Association and the ladies accompanying are not crossing the seas to the Emerald Isle for nothing.

The Annual Dinner.

The annual dinner of the Association on Wednesday evening was most successful in every way. Every seat was occupied and the speeches were all interesting. Sir William Whitla gave the toast of "The Lord Lieutenant and prosperity to Ireland" in a felicitous speech, in the course of which he said the toast was always received in every part of Ireland in the true spirit of brotherhood. His Excellency devoted his reply to a sketch of the public health work done in Ireland during the last few years, especially that done by the Women's National Health Association to check the ravages of tuberculosis. Though it was too soon to expect statistical proof of the success of that work, the statistics for 1908 indicated that the death-rate from tuberculosis was declining. His Excellency added that the Countess of Aberdeen was exceedingly gratified that her work in this direction should have been recognized by the British Medical Association, for he was permitted to say that the Council had that day resolved to recommend the Association to elect her at the General Meeting on Thursday an Honorary Member, a privilege he had himself enjoyed since the Annual Meeting in Montreal. The toast of "The Association" was given by the Bishop of Down, Connor, and Dromore, and was briefly acknowledged by Dr. Macdonald. The toast of "The Guests," given by Sir Peter O'Connell, was acknowledged by the Lord Mayor of Belfast, Professor Fehling of Strassburg, and Dr. Delavan of New York.

Co-option to Central Council.

The Central Council has co-opted Dr. Buist, Mr. Andrew Clark, Dr. Macdonald, Dr. Maclean, and Dr. Pope.

The total number of members registered as present at the meeting up to the time of going to press is 1,480.

ANNUAL REPRESENTATIVE MEETING.

NOTES.

The Annual Representative Meeting which assembled in Belfast at noon on Friday, July 23rd, concluded its business on the afternoon of Tuesday, July 27th. It sat on Friday, with adjournments for lunch and dinner, until 10 p.m. On Saturday it sat, with an adjournment for lunch, from 9.30 until 5, when a majority of the members left Belfast to spend the week end at Portrush, including a visit to the Giant's Causeway, or at Newcastle. On Monday the Representatives sat from 10, with an adjournment for lunch, until nearly 7 p.m. On Tuesday the meeting assembled again at 11 a.m.; the business on the agenda paper was concluded soon after 1 p.m.; but after the General Meeting at 3 p.m. on that day, when the retiring President, Mr. Sinclair White, inducted Sir William Whitla, the Representative Meeting was resumed to confirm the minutes, and to express its thanks to Dr. Macdonald for the way in which at four successive meetings he has presided over its deliberations. Sir Victor Horsley's fine tribute to Dr. Macdonald's services and character, supported as it was by equally sincere words of commendation from Mr. Ballance, Dr. Macdonald's successor in office; from Dr. Campbell Watt, the Representative of Natal; and Dr. Bruce Goff, the father of the Scottish members, was received with enthusiasm by the meeting; and it was impossible to mistake the ring of genuine admiration with which the retiring chairman was received when he rose to respond. In this response, Dr. Macdonald seized the opportunity afforded by the fact that a Colonial Representative was among those who had supported the vote of thanks to give expression to his fervent hope and confident anticipation that the British Medical Association would be able to knit more closely the ties between the members of the profession at home and those in the Dominions beyond the Seas. This hope and this anticipation are, without any doubt, shared by all the Representatives and, indeed, by all those in whose name they speak. The reorganization of the Association has caused some inevitable delays and has in some directions produced certain difficulties; but the delays, it may reasonably be expected, are now nearly at an end, and as to the difficulties which have not yet been removed, where there is a will there is, according to the old proverb, a way, and as to the good will of the representatives, those who have watched their meetings can have no doubt.

On the first day of the Representative Meeting a very interesting and instructive discussion on the many problems arising out of the institution of compulsory inspection of school children took place. Among these problems was that of the treatment of school children found on inspection to be in need of treatment. Upon this the meeting first affirmed the general principle that such children should not be referred to public medical charities for treatment, whether the public authorities did or did not offer payment or subsidies. This resolution has an obvious bearing on the present situation in London, where many voluntary medical charities have recently expressed their readiness to accept payment, whether by way of capitation fees or round-figure grants, for treating children referred to them by the education authority. The meeting also affirmed the principle that no scheme for referring the children for treatment under the Poor Law could be approved under existing conditions pending such reforms as may result from the reports of the Royal Commission on the Poor Law. The discussion showed more clearly than ever before that the conditions in urban and rural districts differed so much that different methods of meeting the new circumstances must be found. The meeting expressed the view that in towns the work should be entrusted to private practitioners, who may discharge their duties at convenient centres to be designated "school clinics." In sparsely populated districts the opinion stated by the meeting was that the necessary provision should be made by the official recognition of the surgeries of private practitioners as places at which treatment may be obtained at the public expense. In this connexion a scheme proposed by the Watford and Harrow Division was approved as likely to prove applicable to many districts. It is in part founded on the system under which payments are made for the treatment of soldiers on furlough in districts where no officer of the Royal Army Medical Corps is available, and would preserve for the parent or guardian full freedom of choice in the selection of the practitioner.

The reports of the Committees on Ophthalmia Neonatorum and on Uterine Cancer also led to interesting discussions, in the course of which apprehensions were expressed that certain risks attended the promulgation of such reports. One of these was that they might conceivably be used by a cross-

examining counsel to the disadvantage of a medical defendant. To this it was replied that the statements in the reports themselves did not go beyond those which are to be found in modern textbooks, and fairly represented the opinion and the practice of the day. The other risk feared was that the authority which must attach to such reports might tend to crystallize opinion in too insoluble a form, and thereby possibly retard the free growth of medical science and the development of even more efficient methods of treatment. That it would be mischievous to stereotype opinions and methods no one will deny, but this is very far indeed from the intention of the Association, which, having put its hand to the plough, will not hesitate to prolong the furrow when occasion arises. The two reports are appeals, primarily to the profession, to use its opportunities and influence to check two great evils affecting the infants and the mothers of the country. It would, of course, be absurd to suppose that in either instance finality has been reached; medicine is a living science and a progressive art. When new facts are discovered the Association may be trusted to take note of them, and improve its recommendation accordingly.

Two things were done by the Representative Meeting which it may, perhaps, be permissible to say recent experience of the editorial office tends to prove very much wanted doing. The one was an instruction to the Central Council to formulate the main principles affecting medical contract practice contained in the Contract Practice Report, but not always very easily extracted from that valuable but voluminous document by a man in a hurry or in a difficulty. The other was the adoption of a set of model rules for inclusion in the regulations of local District Nursing Associations. The correspondence columns of the JOURNAL have recently afforded abundant evidence that these associations—admirable in their conception, and, when conducted under proper regulations, of the greatest assistance to the profession, of the greatest benefit to their patients—are liable to abuses which largely destroy their usefulness.

THE SECTIONS.

BRIEF SUMMARY OF PROCEEDINGS.

THE character and scope of the work of the different Sections will appear from the following short summary of the proceedings. A full report of the discussions and of the various papers read in the Sections will be published in due course.

Wednesday, July 28th, 1909.

SECTION OF ANATOMY AND PHYSIOLOGY.

PROFESSOR C. S. SHERRINGTON, who presided at this Section, after a few words of welcome, said he was glad the programme contained so many papers of equal interest to anatomists and physiologists alike. The association of structure and function in a Section like the one with which they were concerned was absolutely essential if their discussions were to be fruitful and illuminating. The first formal contribution to the business of the meeting came from Professor A. F. Dixon (Dublin), who, dealing with the anatomy of the achondroplasic skeleton, explained that he had recently had an opportunity of examining five complete examples of achondroplasic dwarfs. They seemed to throw some sidelights on the processes of ossification in the body. The limbs were short and thick owing to the great development of the muscles, and these factors reacted on the skeleton. By means of lantern slides he demonstrated the bones of the specimens he had examined, from which it was clear that all the long bones were very remarkably short, with the single exception of the clavicle, the latter being practically normal in size. Those bones which were ossified earliest were affected most and vice versa. The cranium showed a remarkable contracture of the base. The face was drawn backwards and the foramina at the base of the skull were very small. An interesting discussion followed, in which Professor Patten, Dr. Waterston, Dr. Scanes Spicer, Dr. Rutherford, Professor Peter Thompson, and the President took part. A very interesting discussion next took place on a paper communicated by Dr. Scanes Spicer on some points in the mechanics of respiration, and the relation of these as a causal factor in the production of extrinsic cancer of the larynx and oesophagus. In his opinion, bad forms of abdominal breathing produced a frictional movement between the posterior arch of the cricoid and adjacent part of the oesophagus on the one hand, and the vertebral column behind on the other. The frictional movement was produced by the descent of the cricoid, pulled down by the trachea, and this in its turn was due to excessive descent of the diaphragm. The discussion which followed centred mainly on the mechanics of respiration, and the frequency of cancerous growths in the region of the cricoid cartilage. Criticisms on the various points raised were made by Professor Peter Thompson, Dr. Dickey, Dr. Rutherford, Dr. Waterston, and Dr. Howat, and afterwards Dr. Scanes Spicer replied. Dr. Hugh Maclean (Liverpool) read a paper on phosphatides in the light of modern research. These substances, he said, were of a more or less fatty nature, extracted from the tissues of the body generally, and especially the heart and brain; in short, they might be defined as nitrogenized, phosphatized fatty acids. He pointed out that the generally accepted formula for such a phosphatide as ordinary lecithin was incorrect, and that probably few, if any, lecithins contained all their N in the form of cholin; moreover, lecithins from different sources, while showing a somewhat similar elementary composition, might differ considerably in regard to their cholin content. In the discussion which followed, Dr. Rutherford, Dr. Reid Hunt, Professor Moore and Professor Milroy took part, and the Section then adjourned.

SECTION OF DERMATOLOGY AND ELECTRO-THERAPEUTICS.

THE proceedings of the Section were opened by the President, Dr. William Calwell (Belfast), who devoted his address mainly to the progress of dermatological study in the medical schools in Belfast. Speaking upon the general question, he suggested that dermatology did not obtain its proper place in the education of the medical student. It was a mistake to make it a hurried and scamped course at the end of the curriculum, and it might very well be taken while the student was being instructed in medical and surgical anatomy. A student would form a better idea of pulmonary tuberculosis, for example, if he were to see the several varieties of lupus, while the study of the class of disease labelled "eczema" would give an insight into the gastro intestinal infections. A discussion upon radium-therapy was then opened by Dr. Louis Wickham, head of the Radium Institute in Paris, who described the methods he employs for the treatment of cancers. He said that the filtrative methods, by which any desired modification of the radiation was obtained, had been carried to a high degree of refinement. He explained the principles of his cross-fire applications of radium, and also his method of taking advantage of artificial orifices, such as an *anus praeter Naturam*, to introduce the radium deeply into the intestinal mucosa, and from there to treat the cancer. The four conditions in which he found radium-therapy of most service were epithelioma, angioma, keloid, and chronic eczema. He brought forward some remarkable slides illustrating cases which had yielded readily to treatment. The

discussion was continued by Sir Malcolm Morris (London), who said that, just as they divided surgery into two great epochs—"before Lister" and "after Lister"—so they might divide the medical application of radium into "before Wickham" and "after Wickham." The group of cases that had interested him more particularly were those in which great filtration in the shape of layers of lead was employed, thereby obtaining therapeutic penetration in the deep tissues. He had recently a case in which tuberculous glands had been removed on three different occasions. When they began to form again he determined to try the effect of radium on these glands, so as to avoid any further surgical investigation. He used a filter of 2 mm. of lead and gave long exposures, and at the end of three weeks there was no trace of the gland left, and the skin had received no burn. Professor Wild (Manchester) pointed out certain differences between *x* rays and radium as therapeutic agents. Dr. Tomkinson (Glasgow) thought that Dr. Wickham had not sufficiently dilated upon the aesthetic quality of the resulting cicatrices in cases treated by radium. Dr. Sequeira (London Hospital) thought that in radium we had rays, if not of greater penetrability, at least more manageable than in the case of the *x* rays. Dr. H. Lewis Jones (St. Bartholomew's) read notes of twenty-four cases on the treatment of naevus by radium.

SECTION OF DISEASES OF CHILDREN.

WORK in this Section began with a discussion on club-foot, opened by Mr. Robert Jones, of Liverpool. Dealing with the congenital varieties, it was pointed out that the talipes equino-varus was the only type presenting difficulty in treatment. After tracing the anatomical difficulties which any treatment had to overcome, Mr. Jones pleaded for the earliest possible recognition and treatment. Both the equinus and varus could be remedied simultaneously, and failure of union after tenotomy was practically unknown. Rotation of the tibia and fibula on each other was soon corrected by daily torsion with both hands, the epiphyses being efficiently guarded from disturbance. When the case was on its way to recovery walking improved it, and should give the finishing touches to the surgeon's art. He thought "over-correction" of the deformity at the time of operation a mistake, and, where interference with bone was necessary in severe or relapsed cases, previous manipulation much diminished the amount of sacrifice of bone necessary. Mr. A. H. Tubby's remarks were confined to the reasons for incomplete cure and relapse of cases. He favoured astragalectomy where bony interference was required. Mr. J. H. Nicoll (Glasgow) preferred to divide the tendon partially and then snap the remaining fibres, approaching it from its superficial surface as safer than cutting towards the skin. The treatment for each case must be decided by a consideration of the child jointly with its mother. Mr. A. McLennan (Glasgow) explained his method of elongating the tendo Achillis, which he regarded as the factor most concerned in the production of both deformities. Mr. E. Laming Evans (London) said he was an adherent of the technique laid down by Adams, and attached importance to "unrolling" the astragalus from the os calcis. Mr. Edmund Owen (London) said he fixed the foot in plaster of Paris in the over-corrected position for three weeks, after which no manipulation or further operation was required. Where radical treatment was necessary Phelps's operation yielded good results. Mr. R. C. Dun (Liverpool) and Mr. Collinson (Preston) also joined in the discussion, and the President (Mr. Harold Stiles of Edinburgh) pointed out that adduction of the metatarsal bones was quite the most difficult part of the deformity to correct. Mr. Robert Jones, in his reply, pressed for tenotomy and repeated wrenching before any bone operation was undertaken. He regarded a case relapsed after Phelps's operation as hopeless, the condition then approximating to an amputation of the front part of the foot.

SECTION OF HAEMATOLOGY AND VACCINE THERAPY.

THE new Section of Haematology and Vaccine Therapy was opened by the President, Sir Almroth Wright, with a paper entitled Retrospect and Prospect. In this he gave a brief survey of the therapeutics of bacterial diseases and of the development of therapeutic immunization out of prophylactic immunization. He discussed the question whether the method of passive immunization (serumtherapy) would eventually furnish a general method for the treatment of generalized bacterial infections, and how far this method of treatment has already been successful. He then dealt with the suggestion that localized bacterial infections might appropriately be healed by active immunization (vaccine therapy) and the subsequent proposition that vaccine therapy might be applied also to generalized infections. He gave a brief synopsis of the results which, in his opinion, had already been achieved by this therapeutic method, and discussed the question as to what future extensions of it may be anticipated. He drew attention to the urgent need for further study of the physiology of the machinery of immunization and the possible application of vaccine therapy in connexion with the secondary infections of scarlatina, small-pox, cancer, whooping-cough and hay fever in connexion with the limitation of family and institutional epidemics. Mr. Leonard Noon followed with an interesting paper on the site of inoculation as influencing the immunity produced. He described some experiments which appeared to demonstrate the possibility of separating the different phenomena generally recognized as integral parts of the response to inoculation. Dr. Butler Harris commented on the importance of the site of inoculations in the treatment of localized infections. Dr. Golla read a paper on the antitryptic index and described a method for which he claimed accuracy and simplicity for estimating a tryptic digestion, and gave a general summary of the results he had obtained in estimating the antitryptic index in tuberculosis and various other diseases. Dr. A. Fleming also spoke, and suggested that the antitryptic index had no relation to the tuberculous infection, but is in relation to the pus-forming organisms which form secondary infections. Dr. Thomas Houston read a paper on chronic typhoid infection and described cases, and Professor J. McWeeney mentioned that during the past year he had traced the causation of two outbreaks of typhoid to carrier cases. The morning ended with a paper by Professor Sanfelice (Bologna) on the genesis and cure of the malignant tumours, which was followed by a demonstration of lantern slides. From the results he had obtained Professor Sanfelice concluded that he had isolated a toxin capable of producing an antitoxin, and that this promised to be of use in the treatment of malignant growths.

SECTION OF HYGIENE AND PUBLIC HEALTH.

THE opening meeting of this Section was attended by Their Excellencies the Lord Lieutenant and the Countess of Aberdeen, and by the Lord Mayor and Lady Mayoress of Belfast; and Dr. Hamilton, Vice-Chancellor of Belfast University. The President, Dr. Louis Parkes, in his introductory remarks, alluded to the reduction of the death-rate in recent years, owing to the efforts of public health authorities. He stated that the rate of infantile mortality had only been reduced during the last few years, and considered that this reduction was due to two causes—partly to the influence of health visitors, and partly to climatic influences—the cold and wet summers which we had recently been enjoying. In his opinion they were sadly behindhand in regard to the impurity of the air which they breathed, and this was one of the chief causes of physical deterioration. He pointed out the improvement in this respect which had taken place in London in recent years, which he considered to be largely due to the use of gas by poor people. With regard to tuberculosis, he considered that its ravages were due rather to insanitary homes than to polluted milk, and he thought it was an interesting question as to how far tuberculosis remained latent in

the system for years. A discussion on compulsory notification of all forms of tuberculosis was opened by Dr. Scurfield, M.O.H. Sheffield, who gave an account of the system of compulsory notification which came into force in Sheffield in November, 1903. He stated that bacteriological examination of sputum was provided free of charge. The notified cases were visited by inspectors, who gave advice, supplied spittoons, and disinfected when necessary. Hospital accommodation was provided by the Corporation for 20 males and 20 females for short periods, the principal objects being to educate the patients, to relieve their friends, and to select those who were suitable for prolonged sanatorium treatment. He thought that work should be provided for consumptives, in order to avoid the creation of a class of loafers. An open-air school had just been provided for delicate children. In the second part of his paper Dr. Scurfield analysed the tuberculosis death-rate in Sheffield and other towns, and showed that in Sheffield the female rate was very low, and that for males and children high. The discussion was continued by Dr. McWalter of Dublin, who strongly opposed compulsory notification, saying that it showed a tendency to adopt the methods of the Holy Inquisition, which was out of date in the twentieth century. He criticized a recent Order in Council which compelled notification of consumption only when the notified person slept in a room with others not affected, and said that this Order left out the rich and struck at the poor. He considered that the whole tuberculosis scare was a superstition of science. Sir Charles Cameron, M.O.H. Dublin, was strongly in favour of compulsory notification, but only regretted that the word "may" was used instead of "shall" in the Act as applied to Ireland. He pointed out that the Irish had a great respect for laws they thought useful, and instanced the fact that there had never been any difficulty in carrying out the Vaccination Acts in Ireland. Sir John Byers, of Belfast, spoke strongly in favour of compulsory notification, and urged the making a beginning, so as to find out how the Act worked. Dr. Nasmyth of Edinburgh, Dr. Gilchrist of Nice, Dr. Rentoul of Lisburn, and Dr. H. Jones of London, all spoke in favour of compulsory notification. Dr. Darley Wynne of Clonmel read a paper on the connexion between cattle fairs in Ireland and the excessive death-rate from tuberculosis. The paper was illustrated by a photograph of a cattle fair in Clonmel. Dr. Niven, M.O.H. Manchester, read a paper on the control of tuberculosis in cattle. The business of the Section for the day concluded with two short papers—one on school medical inspection, by Dr. E. Magennis, and one on primary education in Ireland, by Dr. Henry O'Neill of Belfast.

SECTION OF LARYNGOLOGY, OTOLOGY, AND RHINOLOGY.

THIS Section was opened by the President, Dr. St Clair Thomson, who expressed his appreciation of the honour conferred upon himself by the Council in electing him as President. He thought the programme selected an excellent one because of the wide-reaching importance of the subjects, although some appeared to be very complex. Tinnitus was so frequent and so troublesome that any fresh light as to its causation and treatment would be welcomed. With regard to the Klebs-Loeffler bacillus, they would have the opportunity of hearing the views of Dr. Watson Williams, who had had unique opportunities of studying it clinically. They would also have the opportunity of hearing a skilled bacteriologist, and, finally, the suggestions of a medical officer of health, with regard to dealing with it on a large scale. The Section would also have the benefit of hearing the views of an American colleague, Dr. Delavan, upon intubation. Dr. Barr of Glasgow then read a paper upon the treatment of tinnitus aurium from a non-operative point of view. He referred to its connexion with vertigo, but limited his remarks to the tinnitus. He pointed out that this symptom might occur with practically every disease of the ear, and was also the result frequently of general disease. It was thus very important to find, if possible, the cause of the noise, and to examine the history and habits of the patient. Neurasthenia, either as cause or result, was often present, and should be attended to. He referred to the action of fibrolysin, and spoke of the difficulty of estimating its effects, which was true of any new form of treatment. He had tried various drugs, as quinine, salicylate of soda, aspirin, hypnotics, and sedatives with varying results. He next touched upon climatic conditions, preferring upland and inland air, if not too cold, as he had found that seaside and humid atmosphere was inclined to aggravate the condition. He briefly spoke of external stimulating applications to the mastoid process, some of which at times produced improvement. He laid rather more stress upon *Ton-behandlung*—application of tuning forks to mastoid process—which seemed certainly to produce improvement. Electrical treatment, which a few years ago seemed to hold out hopes, had not fulfilled its expectations. In fact, they were very much in the position as regards curative methods that they were in twenty years ago. Dr. Lake dealt specially with operative methods, giving a brief summary of the various operations that were and had been practised, dividing them into minor and major classes. He criticized these, and did not consider that they were based upon logical methods, and success was only occasional. Ablation of the cochlea he thought a logical procedure, as it removed the end organ. He finally gave some statistics of division of the auditory nerve, from which he argued that it never should be done. Dr. Knowles Renshaw gave an interesting account of the result of the subcutaneous injection of thiosinamine, in every case of which some improvement was manifested. Dr. Andrew Wyllie spoke of his method of hot-air injection. The discussion was continued by Drs. Oliver Carlyle, Hill, and Ward Cousins, the last named referring to the danger of facial paralysis in division of auditory nerve. Dr. Logan Turner was doubtful as to the selective action of fibrolysin upon the ear. Dr. Woods did not consider that it was at all proved that there was increased intralabyrinthine pressure in tinnitus, and Dr. Hugh Jones read a short paper upon the association of slight abnormalities of the auricle with certain forms of deafness, giving statistics in reference thereto. Mr. Jackson discussed the question of exostosis of the external meatus in an interesting paper, giving some ethnological investigations. He considered that they were most probably due to irritation of sea water. The proceedings terminated after Dr. Dan McKenzie had read a paper on the clinical value of labyrinthine nystagmus tests, in which he gave the results of some careful clinical studies of the effects of hot and cold water applications to the membrana tympani through the external meatus and their relationship to nystagmus.

SECTION OF MEDICINE.

AFTER a few introductory remarks by Professor J. A. Lindsay, President of the Section, Sir Clifford Allbutt opened a discussion on angina pectoris. It was, he maintained, a symptom group or procession, the members of which were discussed, recurring in mankind with fair uniformity and hence due to fairly uniform causes. He divided angina pectoris into angina major and angina minor, the characters of which he described. Pseudo-angina he classed with vago-vasal attacks; vasomotor oscillations might occur in angina pectoris as determinants of attacks, or might be themselves the result of afferent impressions from the cause of the angina. Having discussed the prevailing theories of angina, he gave his own interpretation of angina, that its origin was not in the heart but in the aorta above the sigmoid valves, that the oppression of angina minor originated there, also the pains of angina major, and these spread by diffusion of the central irritation to neighbouring centres. Neither in its major or minor forms was angina directly fatal, in the majority of instances of its occurrence was due to co-operating causes—as valvular or myocardial disease. Many cases of the major and minor forms ended in recovery. When death was due directly to the angina it was from reflex

inhibition of the vagus or from other severe peripheral irritations. But in that case the myocardium was nearly always weakened from coronary disease, toxic influence, or other cause. Sir Lauder Brunton could not accept the view that the aorta was the only source of aortic pain. He considered that there were cases with anginal pain that differed in quality, and not merely in degree, and he provisionally adhered to the name "pseudo-angina" as a convenient clinical term. In this the pain occurred in young persons, and although the pain might be extremely severe it did not cause death, and was not relieved by nitrites. Mere distension of the serous coat of the aorta could not, he thought, be a cause of pain, or of any organ, as seen in the case of the bladder, bowel, etc. He still thought cramp of some of the heart muscle fibres was a cause of the pain in some of the cases, and that that was largely due to the excessive work of the heart against great resistance. In some cases the pain was not referred to the sternum but to the apical region of the heart, and these were not, he thought, primarily aortic. Anginal attacks might cease for many years, but that did not necessarily involve the idea of cure of the causal disease of the angina. In pseudo-angina the treatment was tonic, in true angina repressive. Professor Osler thought that although there was one group of cases clearly aortic as Sir Clifford Allbutt had described, yet in another large group there was disease of the coronary arteries and none of the aorta and in a third small group of cases there was neither. He had more faith in the intermittent claudication of of the heart theory as explaining many of the cases than in any of the other prevalent hypotheses. Dr. W. K. Hunter described a case in which although there was aortic regurgitation there was high blood-pressure the anginal pain in which was relieved by nitrites. After Dr. John Haddon had made some remarks, Sir Clifford Allbutt replied. Papers were then read by Dr. D. W. Samways on misconceptions concerning the Riviera, and Dr. W. Gordon on the influence of soil in phthisis. The Section adjourned early to allow the members to attend the Address on Medicine.

Section of Navy, Army, and Ambulance.

THE Section of Navy, Army, and Ambulance commenced work on Wednesday, with Fleet Surgeon J. Lloyd Thomas, R.N., as President. In his opening address he offered a hearty welcome to the members of the Section. Colonel T. H. Hendley read a paper entitled "A Contrast between the Treatment of the Wounded under the Moghul Emperors and King Edward VII, Emperor of India." In the army of the Indian Moghuls the wounded seem to have been left mostly to their fate; there was no organization for their succour nor any attempt to heal their wounds; this was left to their relations and friends. Surgery was left to quacks or barbers, and in India to "jarahs," who were combinations of both; they used salves, or plunged stumps of limbs into boiling oil, especially after gunshot wounds, which were regarded in India, as in Europe, as being poisoned. These practices and ideas persisted in the armies of the native princes almost down to the present time. A case of the use of boiling oil had recently occurred when Colonel Hendley was in India in 1871, and "jarahs" were attached to all native regiments of the Jeypore State, who dressed wounds, shaved sepoys if required, or acted as chiropodists. Medical treatment for Mohammedans was in the hands of "hakims," who followed the Yunani or Greek system of Galen and Avicenna, and for Hindus was in the hands of Vaids who practised the humoral methods of the old Sanscrit writers. In Moghul or Mahratta armies there was no provision for the transport of wounded. Every wounded man, if not able to walk or ride off himself, had to be carried on an animal or in a country cart, and the friends alone, and not the State, had to be depended upon to provide what was wanted. The main principles of the present method under King Edward VII, Emperor of India, were to follow up the fighting line so that the wounded might be succoured as soon as possible after they fell; their speedy, and, as far as might be, comfortable removal to a place of comparative safety, and then to some place at which they could be properly treated in view of returning them when fit at the earliest date to the front. A paper was communicated by Colonel H. E. R. James, giving an account of the Officers' Training Corps, with special reference to its medical branch. The existing reserve of medical officers to-day was, he said, inadequate. A special reserve of officers designed to help to meet the case had been formed, but in the most favourable circumstances it was unlikely in the immediate future to produce the large body of officers required. Men were apparently loth to bind themselves to undertake war service in prospective, although they would come forward readily upon the occasion arising. It was also pointed out by Colonel James that a medical man who knew nothing of military service must be at a great disadvantage under conditions of field service for a considerable time after joining and probably at a critical period of a campaign, whereas one who had received military medical training would be at once valuable to colleagues and patients. Therefore, the giving of the opportunity of the necessary training with a free hand to schools and universities without binding the recipients to service, was a measure which promised well, even if it did not fill the Special Reserve of the Territorial Force with officers as was hoped. A paper by Lieutenant-Colonel R. Porter on physical training of recruits in the army was read, and the system was demonstrated by a squad of recruits who recently completed a three-months' course of training.

Section of Obstetrics and Gynaecology.

THIS Section met in the Natural History Class Room, at 10 a.m. on Wednesday, July 28th, the President, Dr. John Campbell, being in the Chair. After a few words of welcome to visitors, he called upon Dr. Thomas Wilson, of Birmingham, to open the discussion upon the treatment of the graver forms of puerperal sepsis. In doing so, Dr. Wilson recommended the segregation of patients, and held that effective means for isolation and treatment should be provided by the community, as in the case of scarlet fever, small-pox, and diphtheria. He considered that the graver cases included all such cases as threatened the patient's life. No symptoms were constant, but the rise in temperature was the best indication for treatment. A temperature of 102° without other apparent cause was sufficient presumption that infection had occurred, and energetic treatment should be at once begun. The uterus should be freely washed out, and he preferred to use a solution of iodine. If there was any débris left it should be removed with the finger rather than by the curette. The discussion was continued by Professor Fehling (Strassburg), Professor Murdoch Cameron (Glasgow), Dr. Munro Kerr (Glasgow), Dr. Hastings Tweedy (Dublin), Dr. Henry Jellett (Dublin), Dr. F. Edge (Wolverhampton), Professor Alfred Smith (Dublin), Dr. Cuthbert Lockyer, Dr. C. E. Purslow (Birmingham), Dr. Beckett-Overy (London), and Dr. Wilson replied, and insisted that the examination of the uterus should not be delayed more than twelve hours after an intrauterine irrigation had failed to lower the temperature. The remaining time of the session was taken up by a paper on midwifery in private practice—a criticism of methods based on actual results, by Dr. J. J. Austin, which was most favourably discussed, and one on the treatment of uterine cancer in the later months of pregnancy by Mr. Cuthbert Lockyer.

Section of Ophthalmology.

THE President, Dr. J. Walton Browne, opened the proceedings with a short address in which he made sympathetic allusion to the death of Mr. Simeon Snell

and to his work on ophthalmology. Dr. Freeland Fergus (Glasgow) then opened a discussion on eye injuries in their relation to the Workmen's Compensation Act. He drew attention to the impossibility of inventing any mathematical formula by means of which one could describe the amount of vision any person either possessed or had lost. He considered it almost impossible for a man to carry out underground work with only one eye. In employments which demanded binocular vision liberal compensation should be given for the loss of an eye, and in addition it should be remembered that many middle-aged persons were quite incapable of learning a new trade. He pointed out the great disadvantage suffered by a man whose vision was not good, for, owing to recent legislation, no one cared to employ him at all. Dr. Cecil Shaw dealt with the question of the loss of an eye. He stated that in many employments a one-eyed man was as good as one who had two. The loss of one eye was chiefly important from the much greater risk they ran of total blindness from accident or disease, and this would in time cause all employers to avoid those persons. Dr. W. H. Brailey (Hove) thought that Dr. Freeland Fergus had rather minimized the effect of the loss of binocular vision. Workmen should be allowed to contract out of the Act, so as to avoid the difficulty of getting employment. Mr. Bishop Harman thought the loss of binocular vision was a most serious matter to any one, and especially to those employed in machine shops. Remarks having been made by Dr. Arthur Green (Norwich), Dr. Henry (Leicester), and Mr. Johnson Taylor (Norwich), Professor Fuchs (Vienna) spoke of the way in which things were managed in Vienna. Mr. Berry (Edinburgh) thought that people who lost one eye quickly got used to monocular vision. He thought that the added risk of a man having only one eye becoming totally blind was almost inappreciable. Dr. Nelson (Belfast) spoke strongly against the practice of surgeons in taking sides in any case. After some further remarks by Sir Victor Horsley and a summing up by the President, Dr. Freeland Fergus replied. Sir Victor Horsley read a paper on optic neuritis, his chief point being the isolaterality which existed between the optic neuritis and the lesion. He showed many drawings of discs in which this was evident, and he came to the conclusion that it was almost a universal rule. He accepted the ophthalmic evidence as the chief thing on which he could rely in order to determine the side of the tumour, and gave a most interesting demonstration on the ophthalmoscopic and microscopic conditions present in these cases. The subject was discussed by Dr. Gordon Holmes and Mr. Leslie Paton. Dr. Hinshelwood (Glasgow) described a case bearing on the point. Mr. Thomson Henderson (Nottingham) discussed the matter from the point of view of intracranial pressure, and entirely agreed with Sir Victor Horsley. Sir Victor Horsley replied. Dr. Hinshelwood (Glasgow) described a case of sarcoma of the choroid, in which excision was not allowed until three years after the diagnosis was made; after removal the growth was shown to be a spindle-celled leuco-sarcoma. Mr. Johnson Taylor related a case in which a leuco-sarcoma was present for eleven years before removal, and the patient was still alive. Mr. Devereux Marshall said he had found that most leuco-sarcomata contained pigment microscopically, and that he paid but little attention to the tension of the eyeball, which varied so much. Dr. Reeve (Toronto) also made remarks, and Mr. Hill Griffith described a case in which transillumination gave much help. Dr. W. M. Killen read a paper on the relationship of asthenopia with adenoids, and pointed out that many of the eye symptoms were relieved by clearing the naso-pharynx. Mr. Bishop Harman described a case of orbital periostitis consequent on dental disease. Dr. Freeland Fergus described a similar case and the patient ultimately recovered with good vision. Mr. Johnson Taylor thought it was extraordinary that if bad teeth was the cause the disease should not be far more frequent. Dr. Little (Bradford) also discussed the paper, and Mr. MacCallan related his experience in Egypt. Mr. Harman replied.

SECTION OF PATHOLOGY.

PROFESSOR SYMMERS, the President of this Section, briefly welcomed the visitors to Belfast, and then called for the commencement of the first discussion. It was devoted to the modern aspect of cancer, the chief contributors being members of the staff of the Middlesex Cancer Research Laboratories. Dr. Henry Beckton discussed the question of the presence of granules in cells. In normal cells he had found that granules practically always existed and even in benign growths, but in malignant tumour cells granules never existed. He illustrated his paper with lantern slides, and concluded that on the whole the presence of granules probably denoted a deviation of or loss of function on the part of the normal cell. He reminded the audience that granules varied with the fixative used, and Dr. Lazarus-Barlow (London), Professor Lorrain Smith, F.R.S. (Manchester), Dr. Walker Hall (Bristol), and Dr. Moore (Cork), discussed the question mostly from the aspect of technique. Miss Chambers, M.D., gave a lantern demonstration of and summarized the results of her exhaustive work on a large number of cases of innocent goitre, and the statistics showed that all forms of innocent goitre were far commoner in females, and that parenchymatous goitre occurred most commonly in males than the other varieties, but in both sexes occurred almost practically always in the quinquennial period between 16 and 20 years. The idea of a syphilitic origin of exophthalmic goitre had suggested itself to her, but a histological and bacterioscopic research had not lent any support to this view. In the discussion which followed, the question of amoebae which are found in the stools, and their relation to endemic goitre, was raised by Dr. Willmore (Egypt), and discussed by Miss Chambers. Dr. Lazarus-Barlow gave a lantern demonstration illustrative of the subject of skotography—an outcome of many years' work on radio-activity and carcinoma, which he dwelt on at length in his recent Croonian Lectures. The question is at present far from understood, but Dr. Lazarus-Barlow was convinced that radio-activity had much to say on very many points in the etiology of carcinoma. The lectures have already been published in full in the BRITISH MEDICAL JOURNAL, and, in fact, it would be impossible to summarize so elaborate a contribution to the subject of malignant growth. Dr. Cecil Rowntree (London) gave a demonstration on *x*-ray carcinoma, and summarized the many cases that have occurred in this country and in America. Eleven cases had been reported in the British Isles, and it was noteworthy that in these multiplicity of growths was much more frequent than in other growths. He himself had exposed rabbits' ears and rats' tails to *x* rays, and produced active changes in the connective tissue, though no actual cancer changes. Still, he put forward the view that these changes favoured the onset of malignant proliferation of the epithelial elements. Professor Lorrain Smith showed a case of cancer of the pylorus, with metastasis in the bronchial glands and diffusely in the lung. Amongst his slides were some of interest taken by the polarized light, which showed the distribution of myelin in the lymphatic gland and in the metastases.

SECTION OF PHARMACOLOGY AND THERAPEUTICS.

THE Pharmacological Class Room of Queen's College was appropriately selected for this Section, and work began promptly at 10 a.m. Professor Ralph Stockman (Glasgow) occupied the chair, and, in welcoming those present, reminded them that twenty-five years ago, at the former meeting of the Association in Belfast, a Section of Pharmacology and Therapeutics was held for the first time, and was inaugurated by Sir William Whitla, now President of the Association. Mr. George Chiene (Edinburgh), in a paper upon spinal anaesthesia, referred to the wide divergence of views among writers on the subject. Murphy had stated that the death-rate from spinal analgesia was such as to justify

the introduction of legislation directed against its employment; others maintained its safety, and lauded its value. He instituted a comparison between spinal anaesthesia and general anaesthesia, and discussed in detail the following points: *(a)* The drugs at present recommended and employed; *(b)* the advantages or disadvantages of the addition of adrenalin; *(c)* the dosage and the relation of dose to symptoms; *(d)* the posture of the patient and the position of the puncture. No anaesthetic at present was perfect. He thought that we should look to the future and not condemn indiscriminately. Dr. Dudley Buxton (London) complained that in the comparison between the methods of spinal analgesia and general anaesthesia, the comparison was between picked men, experts in spinal anaesthesia, and the rank and file of the profession, who had had no particular opportunity of gaining special experience. He laid emphasis on the comparative frequency of the failure of analgesia, and estimated it at from 5 to 12 per cent. of all cases. That consciousness was retained throughout was in some cases a great drawback. Some had, therefore, advocated the addition of scopolamine-morphine to dull the patient before the ordeal. Different advocates of the method considered different cases unsuitable for its application. The combined list excluded so much that only a limited field was left. The directions as to the posture of the patient given by different authorities were diametrically opposed. The mortality was certainly higher than in general anaesthesia. The method was of great and abiding use, but it was to be added to the old, not to replace it. Dr. Alexander Don (Dundee) described some *x*-ray photographs which he had taken to determine the most suitable posture and place for puncture, and gave details of his own practice. Mr. Arthur Barker (London) said he was in complete agreement with Dr. Buxton, but he denied that there was yet such a person as an expert spinal anaesthetist. All were still students and without authority to guide them. He laid stress on the need of recording all cases well. Dr. J. Mill Renton (Glasgow) described a method to render the puncture painless. In nervous patients he often combined spinal anaesthesia with ether anaesthesia by the open method. Dr. G. A. H. Barton was opposed to the adoption of spinal analgesia, except in special circumstances, because of the greater risk. In four and a half years' experience Mr. Leedham-Green (Birmingham) had had no accidents, and had had satisfactory analgesia. The patient suffered more pain after the operation than with general anaesthesia. Professor W. E. Dixon (Cambridge), Dr. V. G. L. Fielden (Belfast), and Dr. Coffey (Egypt) also spoke, and Mr. Chiene replied. Professor Arthur Barker then read a short note upon the elimination of stovaine after spinal analgesia, which was discussed by Dr. Newman Neild (Bristol), Professor W. E. Dixon (Cambridge), and Dr. H. H. Dale (London).

SECTION OF PSYCHOLOGICAL MEDICINE.

THE proceedings of this Section were opened by the President, Dr. Outterson Wood, who briefly enumerated the papers to be read, at the same time announcing the unavoidable absence through illness of Dr. Mercier, whose paper, entitled "Somatic Delusions and Local Delusions," was to have formed the subject of discussion on the first day. The President then alluded to the general neglect of the study and teaching of mental diseases which at one time prevailed, and contrasted this neglect with the awakening to the importance of this branch of medicine which is in evidence at every teaching centre to-day. There still remained, however, much to be done, even within the British Medical Association, to bring psychiatry into closer union with general medicine, and particularly with neurology, and he considered that a practical step, which could not but be attended by good results, would be to combine neurology with psychiatry in one Section. A few members having spoken in approval of the suggestion of the President, it was proposed by Dr. Outterson Wood, seconded by Dr. D. J. Thomson of Norwich, and carried: "That in the opinion of the members of this Section, the subjects of psychological medicine and neurology should be combined in one Section and called 'The Section of Psychological Medicine and Neurology,' and that the resolution be forwarded to the General Council for its consideration." Dr. W. R. Dawson (Dublin) then drew attention to the need for additional teaching in mental diseases in Ireland, and proposed the following resolution: "That the Section of Psychological Medicine of the British Medical Association is of the opinion that the attention of the authorities of the National University of Ireland and of the Queen's University of Belfast should be respectfully called to the desirability of establishing lectureships in mental diseases in connexion with the medical faculties of each of the constituent colleges, and that this resolution be forwarded to the Council of the Association." This resolution, seconded by Dr. M. J. Nolan (Downpatrick), was also carried. A resolution was also passed by the meeting, before any paper was read, relating to the Superannuation Bill now before Parliament. In proposing a resolution, "That this meeting of the Section of Psychological Medicine of the British Medical Association desires to express its approval of the principles of the Superannuation Bill now before Parliament, and that this resolution be forwarded to the Council of the Association," the proposer, Dr. Lawless, and the seconder, Dr. Greenlees (South Africa), referred in grateful and eloquent terms to the arduous labours of Dr. Shuttleworth in this matter. Dr. J. M. MacCormac then read a paper on the superficial and deep reflexes as an additional means in the diagnosis of the principal forms of mental diseases. This paper, which was exceedingly brief, consisted of a series of uncompromisingly dogmatic statements upon the reflex phenomena in mental diseases: for example, "in acute mania the reflexes are normal"; "in secondary dementia all reflexes are exaggerated," and "in hysteria there is a decrease of painful sensibility and of the cutaneous reflexes." Dr. MacCormac's paper was briefly criticized by Dr. Thomson (Norwich), Dr. Cole (London), Dr. Nolan and Dr. Hughes (U.S.A.), and others, most of the speakers maintaining that in cases of mental diseases in which no actual organic lesion was present, the various somatic reflexes were so variable that, with rare exceptions, no rule could be laid down. Dr. MacCormac was followed by Dr. T. D. Crothers (U.S.A.), whose paper, entitled "A Study of the Hereditary Influence in the Causation of Inebriety," was followed with the greatest interest. Throughout his paper Dr. Crothers made no great attempt at tabulating and analysing the great mass of material he had accumulated bearing on this important matter, but contented himself with broad general statements all pointing in the same direction, namely, "that the physical causation of inebriety is a fact beyond dispute due to hereditarily-transmitted defective germ cells"; also, "that alcoholic inebriety produces organic defects and derangements of protoplasm, cell growth, and cell activity; and further, that these defects are transmitted to the next generation. Incidentally the speaker referred to the different manifestations of inebriety in different countries, and maintained "that moderate drinking in America is an impossibility." Dr. Crothers's paper was discussed by Drs. Greenlees, Dawson, Shuttleworth, and others, among these being Dr. Hughes, who affirmed his belief that the root of the malign influence of alcohol lay in its dehydrating effects, thus bringing about degenerative changes in the tissues from lack of fluid support, the moral to be drawn from this being "always take plenty of water in your grog."

SECTION OF SURGERY.

AFTER a few introductory remarks from the President, Professor Sinclair, welcoming the members of the Section, a discussion on the proper selection of cases for operative treatment of obstructive jaundice was opened by Mr. Moynihan, who laid great stress on

the importance of employing every possible means, clinical and chemical, in arriving at a diagnosis. He described cases of obstructive jaundice as falling into two classes, the first class consisting of those in which the onset was insidious and painless, the intensity of the jaundice uninterruptedly progressive and the ultimate tint, green-black. These were almost invariably due to malignant disease in the biliary tract or its immediate vicinity. In the second type, the onset was sudden and violent; the jaundice rapidly deepened, but almost as rapidly faded; it was accompanied by fever and rigors and was characteristically recurrent; there was an ebb and flow of jaundice, each "flow" accompanied by pain and fever; the ultimate colour, at its deepest, was orange-yellow. These were the cases due to foreign bodies in the ducts, generally, of course, calculi, but a possible cause of this latter train of symptoms was found in chronic pancreatitis. The first and most important line of clinical inquiry lay in the investigation of the history. The second, the question of physical signs in this connexion, the value of Courvoisier's law was discussed. The presence of ascites was a most serious sign. Finally, too much weight could not be attached to the chemical investigation of urine and faeces by Cammidge's method. Before operating in deeply jaundiced patients, precaution against haemorrhage should be taken by administering an alien serum. Cholecystenterostomy, valuable as it was in chronic pancreatitis, should be avoided where irremovable obstruction existed. In malignant cases, operation was only justifiable to relieve intolerable irritation of the skin. Exploratory operation might be necessary, but as little as possible should be done. Sir Thomas Myles drew attention to the paradox that the larger a gall-bladder tumour became, the more difficult was the recognition of its anatomical origin. Mr. Stanmore Bishop said he had found calcium chloride useful, and put in a word of warning against junction of the gall bladder with the colon. Mr. de Courcy Wheeler spoke of the value of other simple chemical tests besides Cammidge's. Mr. Childe made a point of the desirability of prophylactic surgery of the gall bladder. He had never found calcium chloride of any use. Mr. Crawford Renton also insisted upon the importance of earlier diagnosis, and spoke of the value of *x*-ray investigation. Mr. Mitchell pointed out that exploratory laparotomy was undertaken not to find out what was wrong, but to confirm an opinion as to operability. Professor Sonnenburg referred to a case of interest, and Mr. McAdam Eccles entered a plea for calcium chloride, and spoke in general agreement with the opener of the discussion. The morning's work ended with a paper by Mr. Newbolt on some cases of resection of intestine, which was discussed by Sir Thomas Myles, Mr. Eccles, Mr. Syme, Mr. Mitchell, Mr. Childe, and Mr. Thelwall Thomas.

SECTION OF TROPICAL DISEASES.

THE President, Dr. C. W. Daniels, after a few introductory observations, opened a discussion upon the persistence of the tropical disease of man due to protozoa. He pointed out that the persistence of the protozoal infection of a single host had to be distinguished from the persistence of protozoa in general. The latter was concerned with both the asexual and sexual phases, the former with the asexual stage only. They ought, he said, to deal with protozoal infections more on the lines of bacterial infection, and direct their efforts to increase the resistance which already existed as well as to endeavour to destroy the parasites. He was followed by Dr. A. Breinl (Liverpool), who, during his comments on Dr. Daniels's paper, stated that he had been able to prove by microscopic investigation the presence of malaria parasites in blood of a person who had resided in this country for seven years consecutively after leaving the tropics. A general discussion then commenced, in which the following took part: James L. Maxwell (Formosa), Major T. Ritchie, R.A.M.C., James Cantlie (London), C. A. Stone (Dooars, India), J. Stewart Brooke (India), Oliver McCutcheon (Dooars, India). Fleet Surgeon P. W. Bassett-Smith (Haslar) communicated a paper upon a short study of the pathology of the blood in verruga. Dr. George A. Williamson (Cyprus) sent a paper entitled "Is ponos kala-azar?" Dr. Aldo Castellani (Ceylon) contributed a paper on bronchial spirochaetosis. On the paper on ponos the following took part in the discussion: Surgeon-General W. R. Browne, I.M.S., D. L. Maxwell, A. Breinl, C. W. Daniels, J. Cantlie, J. Stuart Brooke, and C. A. Stone.

THE KING AT THE ORTHOPAEDIC HOSPITAL.

ON Friday, July 23rd, the King, accompanied by the Queen and Princess Victoria, opened the new in-patient department of the Royal National Orthopaedic Hospital, Great Portland Street, W. Their Majesties were received at the principal entrance by the Duke of Marlborough, the President of the hospital; Lord Denbigh, the Chairman and Lady Denbigh; the Mayor and Mayoress of Marylebone (Colonel and Mrs. Alfred J. Hopkins), Sir R. B. Martin and Sir Samuel Scott, M.P. (the Treasurers), Mr. J. R. Cooper (Chairman of the Executive Committee), Miss Hunt (Treasurer of the Ladies Committee), Mr. Muirhead Little (the senior surgeon), and Mr. Arthur Morley (Secretary). The Duke of Marlborough read an address to Their Majesties on behalf of the committee and governors of the institution. In this it was stated that the committee of His Majesty's Hospital Fund, having realized that great economies of management might be effected by a policy of amalgamation among those special hospitals carrying on similar work in London, urged the committees of the old Royal, National, and City Orthopaedic Hospitals to amalgamate their funds and build a central institution. That building, which provided for 200 in-patients, most of whom were children suffering from malformations which could be cured in the early stages, was the first realization of the policy of concentration. In addition to the hospital itself, they had, across the road, a nurses' home and an out-patient department, where last year more than 11,000 cases were treated, and where they had now installed a special gymnasium for orthopaedic treatment. The cost of the buildings had amounted to about £75,000, of which £20,000 was still required. More than 400 patients were now waiting for admission. The King, in reply, said he responded with much pleasure to the invitation to lay the foundation stone of the new buildings of the amalgamated hospitals, in one of which his beloved mother, Queen Victoria, so long took a lively interest, and with which he himself was associated for upwards of fifty years. The Queen wished him to say that she took a special interest in their work among crippled children, and she was glad of this opportunity of showing her deep sympathy with their efforts to alleviate their lot. He rejoiced to think that those who controlled the funds subscribed for the hospitals of London were alive to the advantages of concentration. There could be no more striking example of the valuable services rendered by the Committee of the Hospital Fund which bore his name than this amalgamation into one of these specia hospitals. Not only was money which otherwise would have been spent on the upkeep of separate institutions set free for the definite achievement of the objects for which the institution existed, but the wider experience gained by collecting all the cases in one building was likely to be productive of valuable results in treatment. He trusted they would speedily be relieved of any anxiety in the matter of funds. His Majesty went on to make an appeal on behalf of the institution. He said it was with great

pleasure that he renewed the Royal charter on the amalgamation of the hospital, and he assured them that the Queen and he would always take the warmest interest in its beneficent work, of which they were most happy to be patrons. After the ceremony, Their Majesties with Princess Victoria visited some of the wards.

THE QUEEN ALEXANDRA SANATORIUM, DAVOS.

THE prospective opening of the Queen Alexandra Sanatorium at Davos for the reception of patients early in this autumn was announced from the chair at the sixth annual meeting of the Council, held at 11, Chandos Street, Cavendish Square, W., on July 16th, by the President, the Lord Balfour of Burleigh, K.T., P.C., who has laboured so long and successfully in the difficult task of raising funds. A splendid donation of £25,000 lately received from a munificent sympathizer, who desires that his name shall not be published, not only supplies the amount required to complete the work and to open the sanatorium free from debt, but provides means for its scientific equipment and for future extensions. It should be mentioned that Lord Strathcona, with his well-known zeal in the promotion of all charitable and useful works, not long ago gave a donation of £2,000 for the purposes of the sanatorium. For the present the sanatorium will accommodate 54 patients, all in single rooms. But the public rooms are designed for a full equipment of 120 patients. The Davos Invalids' Home, the original foundation of the late Mrs. Lord, which for so many years was the only representative of our national charity in Davos, has now ended its task and fulfilled the purpose for which it was initiated—that of developing into a National Sanatorium. The Home had been granted Her Gracious Majesty's patronage as far back as 1899.

WE are informed by the Honorary Secretary to the Executive Committee of the King Edward VII Sanatorium that the King has approved of the appointment to the Consulting Staff of the King Edward VII Sanatorium, Midhurst, of John Mitchell Bruce, M.D., F.R.C.P., and Bertrand Edward Dawson, M.D., F.R.C.P.

MR. JORDAN LLOYD, who has been Professor of Operative Surgery for nearly twenty years, has been appointed one of the Professors of Surgery in the University of Birmingham, in succession to Mr. Bennett May, who resigned that position at the end of the summer session.

IT is announced that the King has been graciously pleased to approve the appointment of Surgeon-General William Launcelot Gubbins, C.B., M.V.O., Deputy Director-General, Army Medical Service, to be Director-General in succession to Surgeon-General Sir A. Keogh, K.C.B., Honorary Physician to His Majesty, when the latter vacates the appointment. Surgeon-General Gubbins entered the Army Medical Service in 1873. He served in the Afghan war in 1878–9, in the Egyptian war of 1882, and with the Burmah Expedition of 1886. In South Africa (1899–1901), where he served as Principal Medical Officer, he was present at the relief of Kimberley, at the battles of Paardeberg and Driefontein, and the occupation of Bloemfontein; subsequently he served as Principal Medical Officer at Pretoria and Pietersburg. He was mentioned in dispatches, promoted to Colonel, and made Assistant-Director of the Army Medical Service, a post he held until 1899. As Principal Medical Officer on the Staff of the Duke of Connaught he made all the medical arrangements for the Coronation in 1902. He has since held similar posts at home and in India. He was created M.V.O. in 1902, and C.B. in 1905.

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

Milk and Dairies Bill (Scotland) was considered in Committee in the Lords last week, and, after an amendment to postpone the operation of the bill had been discussed and withdrawn, Lord Pentland made an amendment in the definition clause to make the bill apply only to premises from which milk is sold or supplied for sale. Amendments were also made to Clauses 4 and 5 relating to the inspection and licensing of dairies. On the motion of Lord Balfour of Burleigh, a certificate of registration was substituted for the annual licence. Clause 13, which deals with the keeping of a diseased cow with healthy animals, was modified by an amendment of Lord Camperdown, and on the question of expenses the point was raised as to a grant from the Exchequer to help local authorities in administering the Act. It was contended that the purification of milk concerned the whole country and was not merely a local matter. The discussion on this point was deferred till the third reading, and on this understanding the bill as amended was reported to the House.

Indian Medical Practitioners.—Last week Mr. Kettle raised in a series of questions the following points: (1) Whether highly-qualified Indian medical practitioners were not allowed to work as honorary officers on the staff of Government hospitals; (2) whether the chief medical advisers of the Government of India and of the local Governments must be officers of the Indian Medical Service, and whether the appointment of civil surgeons to important posts would depend on these officers; and (3) whether some London schools of medicine were practically closed to Indian students, and whether steps could be taken to see that persons qualified from such schools were not employed in the Indian Medical Service. The Under Secretary replied: (1) That the number of surgeons and physicians who could be attached, in whatever capacity, to Goverment hospitals was necessarily limited; as to the policy of the Secretary of State and the Government of India in regard to medical appointments generally, he would refer to the papers recently presented to Parliament; (2) that the Secretary of State was not at present in a position to add anything to his answer of June 17th last as to the manner in which the policy recently laid down could be carried into effect; and (3) that the Secretary of State did not think it advisable to modify the existing arrangement under which the medical services of the Government of India were open to the profession generally.

Diseased Meat (Inspection).—Mr. Watt asked the President of the Local Government Board what countries in Europe besides Great Britain had their meat inspection now done by their medical officers of health; and whether, in view of the public danger if unsound imported meat was not detected, he would see that all inspectors appointed in the future had attended a course of lectures on meat inspection and had taken a certificate thereon. Mr. Burns said that the information at his disposal did not enable him to answer the first part of the question precisely, but he might point out that other European countries did not, as a rule, have a service of local medical officers whose administrative functions corresponded with those of medical officers of health in regard to the inspection of food. He had no reason to believe that the port medical officers of health could not satisfactorily perform the duty of judging whether meat was unsound. It was, however, the practice of the Local Government Board, before sanctioning the appointment under the Foreign Meat Regulations of inspectors or other persons to act under the direction of the medical officer of health in relation to the powers and duties imposed on him by the Regulations, to require evidence that these persons were qualified to perform them. In answer to further questions, Mr. Burns said that condemned meat was destroyed in every case. It was sent to a destructor, and a certificate given of its destruction. Where there was no destructor it was destroyed in furnaces or by means of chemicals.

The Manufacture of Morphine.—Mr. Laidlaw asked the Under-Secretary of State for India if the Indian Govern-

ment had established or contemplated the establishment of a factory for the manufacture of morphine. The Under Secretary replied that opium alkaloids in small quantities were extracted in the Government opium factories from waste opium, but the Indian Government had not established, and did not contemplate establishing, a factory for the manufacture of morphine.

The Typhoid Germ Carriers and the Vaccine Treatment.—Captain Clive asked last week when the supposed germ carriers at Millbank would be released, seeing that the vaccine treatment had failed, and Mr. Haldane replied that, although the general and specific vaccines had not been successful in the urinary cases, another method of treatment was now being employed, and it was not proposed to discharge these men as medically unfit until every reasonable method of treatment had been tried. He might point out that these men were undergoing this special treatment in their own interests and in the interest of their comrades, to whom in their present state they would be considered a danger. No question of compensation arose.

Metropolitan Asylums Board and Vaccination.—Mr. B. S Straus asked the President of the Local Government Board whether he was aware that the Hospital Committee of the Metropolitan Asylums Board had made it a condition of tenancy of cottages on their property that every person residing therein should be vaccinated and revaccinated to the satisfaction of the medical officer; and whether such requirement had been sanctioned by the Asylums Board and by the Local Government Board. Mr. Burns replied that, as regards the cottages on the Small-pox Hospitals estate of the Metropolitan Asylums Board at Joyce Green, Dartford, it had been made a condition of tenancy that every person residing in them should satisfy the medical superintendent of the small-pox hospitals that he or she was adequately protected against small-pox, or should consent to be vaccinated or revaccinated. The condition had been laid down by the Hospitals Committee of the Managers, acting in their behalf, and in pursuance of the general policy agreed to by the managers, and the Dartford sanitary authorities, and approved by the Local Government Board, for the protection of the neighbourhood of the small-pox hospitals against the disease. It only applied to the cottages on this particular estate.

Lunacy in Ireland.—In answer to Mr. Vincent Kennedy, who quoted from the report of the Inspectors of Asylums in Ireland, Mr. Birrell stated that he had seen the statement referred to. He was informed by the inspectors of lunatics that in 1880, when the population was estimated at 5,202,648, the number of lunatics under care in Ireland was 12,982, and that in 1908, when the estimated population was 4,371,436, the number of lunatics under care was 23,931, an increase of 10,949. The increase had been continuous, but had tended somewhat to fall off in recent years. In England the increase in the registered insane between 1880 and 1907 was 52,971. In Scotland the increase between 1880 and 1908 was 8,185. The Government had had before them a report dealing at length with the causes which, in the opinion of the inspectors, had contributed to swell the numbers of insane in institutions in Ireland. This report was presented to Parliament in 1906 (Cd. 3126).

The Training of Nurses in Colonial Hospitals.—Mr. Boulton asked the Secretary of State for War why Colonial training in large general hospitals was not accepted for the Queen Alexandra Imperial Military Nursing Service. Mr. Haldane said that his friend had been somewhat misinformed. Colonial training was accepted under the same conditions as training at home. It depended, however, on the opinion of the Nursing Board whether any particular nurse training institute attached to a hospital was accepted for recognition.

Steevens's Hospital, Dublin, and Insane Patient.—Mr. Reddy asked the Chief Secretary to the Lord Lieutenant of Ireland whether he was aware that a member of the Royal Irish Constabulary who had become insane was allocated to the common ward of Steevens's Hospital: that this man escaped from the ward and hid himself for days in the building, while his body was being searched for in the Liffey; and that when he was discovered he was found in a dying condition, the result of hunger and exposure; and would he say by whose direction and authority a lunatic was sent as an ordinary patient for treatment in this hospital. Mr. Birrell said that the constable in question was sent up from the country for treatment for nerve trouble, his medical attendant stating that the case was not one of mental aberration. He was seen to leave the ward on the night of November 14th and, as he did not return, was followed, but could not be found anywhere Every effort was made to trace him, but it was not till a week later that he was found concealed on the roof of a verandah of the hospital. He died a few days later. He had been seen on several occasions before his escape by the surgeon of the force and the resident surgeon of the hospital, but neither of them was prepared to certify that he was insane.

Aliens and Trachoma in London.—On Monday Mr. Rupert Guinness asked the President of the Local Government Board whether there were any returns as to the number of persons in London suffering from trachoma; and whether he had any official information showing that this disease existed almost exclusively among aliens born abroad. Mr. Burns replied that he was not aware of any returns of the number of persons in London suffering from trachoma, but he had no reason to suppose that it was considerable. From the reports of the Medical Officer for Education of the London County Council he gathered that the disease was very rare amongst school children, and almost entirely confined to children of alien birth.

Famines in India.—Dr. Rutherford asked how many famines there had been in India during the 25 years ending in 1887 and in 1907 respectively, with the official estimate of the loss of life involved during each period; and the names of the provinces which suffered most severely. The Master of Elibank replied that, omitting droughts of limited extent, there were four great famines in the first period—the Orissa famine of 1865; the Northern India and Rajputana famine of 1868–70; the Behar famine of 1873; the Southern India famine of 1876–8. The Famine Commission of 1880 estimated the mortality in British India in these four famines at about 8,000 000 in excess of the normal. Much of the excess mortality was due to epidemic diseases obscurely connected with seasons of drought and privation. In the second period there had been four great famines—the Upper India and Central Provinces famine of 1895, which extended to Madras and Bombay, and to Bengal and the Punjab; the Rajputana and Central India famine of 1899, which also affected Bombay and the Central Provinces; the Guzerat famine of 1899–1902; the United Provinces famine of 1907, which extended to parts of the Central Provinces and the Punjab. The excess mortality in British India in 1895 had been estimated at 750,000, and in 1907 at 1,000,000. He was not aware that estimates had been made for the later famines. In the 1907 famine in the United Provinces the provincial death-rate was 36.47 per 1,000, against a normal of 34.59, but there were only 11 deaths which after full inquiry could be attributed to want of food. In answer to a question by Mr. Rees as to famines in India before British rule, it was stated that there was a certain amount of information on record, but it was of a general and not of a statistical character. In the conditions then prevailing systematized relief was not practicable.

The Local Education Authorities (Medical Treatment) Bill, which was read a third time late at night last week in the Commons, obtained its first reading in the Lords on Monday. The bill is a small measure of two operative clauses, and enables local authorities to recover the cost of the medical treatment of children where such treatment is provided under Section 13 of the Education (Administrative Provisions) Act, 1907. The Education Authorities already have power to recover the cost of meals from parents, and this bill puts medical treatment on the same footing. There is every prospect of an easy passage for the bill through the Upper House.

Medical News.

It is stated that, with a view to checking hereditary insanity, the State Legislature of Connecticut recently passed a bill authorizing the sterilization of State prisoners confined in institutions for the insane, on the direction of the medical staffs of those institutions.

The sanatorium for men of limited means which was established two years ago at Clacton-on-Sea, has recently been transferred to the grounds of the Ochil Hills Sanatorium, and at the opening of the new buildings which afford accommodation for ten men, Dr. Chapman explained that the institution was intended for cases of early and, therefore, presumably curable tuberculous disease. Dr. J. C. McVail said that the attention paid in recent years to the cure and prevention of phthisis was due not to a passing whim, but to public appreciation of the great discovery that phthisis was a bacillary disease, that it was preventable, and that it was often curable. The new pavilion would help to meet the wants of a class whose position was particularly difficult. The scheme by which the payment of 30s. a week could be in part recouped by the value of the patient's own labour, was attractive in several ways, for while it would reduce the cost of treatment and would tend to the patient's recovery it would prevent him from thinking that undue advantage was being taken of his labour.

The Danish-French expedition for the investigation of leprosy, which is under the patronage of the Queen of Denmark, left Copenhagen in February last for the West Indies. It was under the direction of Professor Ehlers of Copenhagen, who has drawn up a provisional report on the results of its work. The other members of the expedition were the Danish zoologist, Mr. Wieth, and the French physicians, Drs. Bourret and Félix Verdier. The expenses of the expedition were defrayed by the Danish engineer, M. Davidsen, of Paris. The investigations were made on the Danish West India island, St. Thomas. The chief object of research was the part played by insects in the propagation of the disease. Dr. Goodhue has expressed the view that bugs in particular conveyed the bacilli from lepers to healthy persons, and thus constituted a source of danger. Professor Ehlers was at first inclined to accept this view, but the labours of the expedition have, in his opinion, shown that it is ill founded. Insects fed on healthy human blood, avoiding the lesions in lepers. A full report by Dr. Ehlers dealing with this and other not less important points will be issued later.

The annual meeting of the Association for the Oral Instruction of the Deaf and Dumb, whose school for children and training college for teachers are at 11, Fitzroy Square, was held on July 13th at the Portman Rooms, W. In the unavoidable absence of Lord Avebury, the Chair was taken by the Rev. C. H. Parez, who moved the adoption of the annual report. This set forth that an increasing number of pupils, the starting of a kindergarten for deaf children from 3 years of age (the first in the country), and the institution of an experiment by Mr. White, of Ipswich, of a special mode of voice-production with the object of securing to oral pupils a more natural tone of voice. Funds were still much needed to carry on efficiently the work of the institution, and during 1908 an overdraft on the bankers, amounting to £228, had been unfortunately necessary. Mr. Macleod Yearsley, F.R.C.S., Medical Inspector of London County Council Deaf Centres, in seconding the adoption of the report, congratulated the Association on its vitality, making special reference to the efforts to improve the quality of voice of the orally-taught congenitally deaf child—too frequently monotonous in tone and phrasing. He commended also the kindergarten department for deaf infants recently opened by the director, Mr. G. Sibley Haycock, as its occupations would promote imitativeness and thus smooth the way to learning to lip-read and produce speech. The report having been adopted, the Director gave an interesting address, in which he contrasted the normal child whose brain development was stimulated by language, receptive as well as active, with the deaf infant cut off from the potent and multifarious influences of spoken words, and so lagging behind with unexpanded mind and no adequate means of communication with his fellows. This was the problem of the teacher of the deaf—to stimulate the latent but undeveloped powers of the mind, and to establish a means of inter-communication by teaching him language. Mrs. Galley Blackley distributed the prizes after an interesting demonstration on the platform of methods of teaching in various stages of progress.

Ireland.

[From Our Special Correspondents.]

Death of Professor Alexander Fraser.

We very much regret to learn of the death of Professor Alexander Fraser, occupant of the Chair of Anatomy in the Royal College of Surgeons, Dublin. We shall refer to it next week.

The Treatment of a Consumptive.

Surgeon-Colonel Flinn last week held an inquiry into the circumstances attending the death of Patrick Doyle, who died in Naas Workhouse hospital in May last. Amongst other allegations was one that his days had been shortened by placing him in a cell while he was a hospital patient and spitting up blood. The Master stated that he did not put the man into the casual ward where there was a fire because, it being half-past nine, the fire would be out. Further pressed on that point, the witness gave as a reason that Doyle was under the influence of drink. He would not have put him in the cell if he had thought he was suffering from lung trouble.

Evidence was given by Constable Kenny that deceased had been found drunk in the streets of Naas on February 2nd, and Mr. Thomas Lacey, Secretary, bore testimony to the satisfactory manner in which Mr. Shiel discharged his duties as Master.

Dr. Coady, Medical Officer of the Workhouse, said considering the man was suffering from phthisis, he did not think it was wise to put him in a cell. He did not, however, consider the night in the cell had any ill-effects.

Action for Alleged Libel against a Hospital.

Last week Mr. Miles Keogh applied by Counsel (Mr. Jefferson) to Mr. Justice Boyd for discovery of certain documents in connexion with the case for libel in which he is plaintiff, and the Incorporated Dental Hospital of Ireland is defendant. The plaintiff complains that the defendants falsely and maliciously wrote and published of and concerning the plaintiff, the following:

> That Mr. Keogh (meaning the plaintiff) cannot be accepted as a student at this hospital (meaning the Dental Hospital of the defendant company), the committee having the right by their bye-laws to refuse any student without assigning a cause.

The plaintiff, in his statement of claim, said that these words would be understood by any dentist or other person having knowledge of the practice in Ireland of admission to the dental profession in Ireland to mean that the plaintiff was a man who was unfit and unworthy to attend the lectures at the hospital. The plaintiff also stated that he had in 1894 attended lectures for one year at the Dental Hospital, which hospital was taken over by the defendant company; and in that year he paid 15 guineas as his fees for attending lectures. In 1908 he desired to resume lectures, and believed that the fees he had paid in 1894 should be allowed.

Mr. Justice Boyd, without calling on the other side, refused the application. He said that imputations had been cast on a most respectable body of gentlemen, who were conducting a very valuable institution in the city. The plaintiff in his affidavit had said he was "informed and believed," and again he said, "I have been duly informed." What did he mean by "duly" informed? He did not state the name of anyone by whom he had been informed. The application was a pure fishing application, and he refused it with costs.

Cerebro-spinal Meningitis.

A special meeting of the Dublin Municipal Council has been summoned for Monday, August 9th, in the Mansion House, at 4.30 p.m., for the purpose of adopting resolutions declaring cerebro-spinal meningitis to be a permanently notifiable disease within the County Borough of Dublin, and declaring that Part I of the Tuberculosis Prevention (Ireland) Act, 1908, shall apply within the County Borough of Dublin.

Protest against a Proposed Sanatorium at Dalkey.

At the last meeting of the Dalkey Urban Council, a petition largely signed addressed to the Countess of Aberdeen was submitted to the Board protesting against converting the Dalkey coastguard station into a home for

consumptives, on the grounds that it would mean irreparable injury to the township as a summer resort, and would depreciate every class of property.

Dr. Wright, the Medical Officer of Health for Dalkey, who was asked to report on the subject, wrote protesting in the strongest manner against the establishment of a sanatorium in Dalkey, and condemning the proposed site as unsuitable. "I consider it most unfair," his letter continued, "that this attempt to force a sanatorium on Dalkey should be made, particularly having regard to the fact that the Dalkey Urban Council was one of the very few who agreed to contribute to the scheme of the Dublin Corporation for the establishment of a sanatorium in a suitable isolated spot in the country."

Dr. Greer wrote stating that the proposed premises were in too close proximity to the important residences, that the rooms in the Coastguard Station were too small, and the grounds around it were very limited, and not nearly large enough for the patients to take exercise or for shelters, etc., to be erected. A more isolated, extensive, and suitable site should be obtained.

A deputation was appointed to wait on Her Excellency and present the petition against the proposal.

Scotland.

[FROM OUR SPECIAL CORRESPONDENT.]

ABERDEEN.

Proposed Testimonial to Professor Ogston.

A CIRCULAR has been issued by a number of prominent Aberdeen medical men—as a provisional committee—giving expression to a feeling which is said to be widely entertained that, on Professor Ogston's retirement from the Chair of Surgery, some recognition should be made of his eminent services to surgery and to the university. It is suggested that this take the form of the presentation of a portrait by some well-known artist. With the circular is enclosed a list of 48 subscriptions already intimated. Dr. Mackenzie Booth is the honorary secretary, to whom subscriptions should be made payable. They will be received from members of the medical profession only.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

LONDON.

THE COUNTY COUNCIL AND THE MEDICAL TREATMENT OF SCHOOL CHILDREN.

THE London County Council on July 27th considered the report of the Education Committee with regard to preliminary arrangements to be made for the medical treatment of school children (published in the BRITISH MEDICAL JOURNAL, July 17th, p. 155), and the recommendations of the committee (1) that the offers of six hospitals to provide free treatment be accepted, (2) that arrangements be made with hospitals which are prepared to give free treatment, and (3) that negotiations be entered into with other hospitals on the basis of a money payment.

Mr. Cyril Jackson, Chairman of the Committee, mentioned that since the report passed the committee more hospitals had come in. One, Paddington Green Hospital, had somewhat withdrawn and had gone into the class of hospitals adopting an attitude of general sympathy. Instead, however, the Council now had the assistance of Guy's and Bartholomew's Hospitals, and would probably see its way to doing more than the 20,000 cases mentioned in the report. Forty-six hospitals had replied to date, and 21 were prepared to accept payment. With a little careful organization by the committee, they would be able to get the children treated and also to help the hospitals with their out-patient departments.

Dr. R. M. Beaton moved an amendment to the third part of the recommendation:

That all negotiations be conducted on the basis that the Council reserves the right of inspection in regard to medical treatment, towards the cost of which grants are made by the Council.

He said that with regard to the hospitals which had declined payment, it was a question between them and the general practitioner. When the Council made grants, however, it should have some sort of representation, either by the appointment of a representative on the governing body or by periodically sending an official to the hospitals Especially was this necessary when it was remembered that some of the children would be attended by unqualified men, or men who had only just qualified and who lacked experience.

Mr. A. J. Shepheard seconded, and pointed out that the Council's grants would soon be extended probably to institutions of lesser standing and to dispensaries.

Mr. Jackson said that he could not accept the amendment. The hospitals would not stand it. Dr. Beaton did not say that when the Council paid it would pay for qualified clinical assistants and not for unqualified medical students. He did not think it desirable that young doctors appointed for medical inspection of the children should criticize the work of the clinical assistants, who would be supervised in the hospitals by experts.

Dr. Beaton: Nonsense.

Mr. Jackson defied Dr. Beaton to mention a hospital where the men at the head of the different departments did not see that the work was properly done. The very best men in London hoped to give supervision to this, and to deal with cases of special difficulty.

The Rev. Stewart Headlam remarked that no one suggested that children would be entirely under the care of unqualified men, but a good many students were employed on this kind of work, and the Council ought to exercise supervision.

On a division the amendment was lost by 52 votes to 30, and the recommendations of the Committee were agreed to.

REPORT OF ASYLUMS COMMITTEE.

At the same meeting of the London County Council it was announced that the report of the Asylums Committee recommending the establishment of two receiving houses for the treatment of incipient insanity would not be submitted until after the summer recess. Mr. Hayes Fisher has given notice of an amendment on behalf of the Finance Committee to limit the scheme to one receiving house.

Correspondence.

THE POSTMASTER-GENERAL AND THE MEDICAL PROFESSION.

SIR,—I am afraid Dr. William Bruce, from his letter published in the JOURNAL of July 24th, is not very intimately acquainted with the Post Office Medical Service. He appears to imagine that all the services required by the department are included in the medical attendance upon officials in case of illness. Reference to the report of the Hobhouse Commission would have disabused his mind of this idea.

The duties of a postal medical officer are many. In addition to attendance upon officials, he has to inspect and report upon the sanitary condition of the offices under his charge; he examines candidates for the service; he has constantly to report upon the health of individuals—the probability or otherwise of their ability to render efficient service in the future, the desirability or otherwise of their retirement before the statutory age. He has to be in touch with their work; he furnishes an annual statistical report. He may be appealed to at any time for expert opinion and advice upon any matter connected with the health, duties, office accommodation, etc., of the whole staff in the district to which he is appointed. A medical officer thus becomes intimately acquainted with his district staff, whether he actually attends them in illness or whether they go elsewhere.

The scheme suggested by Dr. Bruce sounds simple but would in practice prove to be very complicated. The ordinary "Post Office man"—so far, at least, as London is concerned—rarely lives for a long time in any one place or neighbourhood. He would, therefore, be frequently changing his doctor. In dealing with the enormous number of its employees, the department must keep disciplinary hold upon them. Dr. Bruce's plan would open a large field for malingering.

I fail to see why the present system is "radically bad." It is not at all uncommon *outside* the Post Office. The "motive" *is* plain—it *is* amongst other things to "ensure subordination" not only amongst the medical officers but also the whole staff of officials.

There are undoubtedly "burdens and restraints" laid upon us. These the Association of Postal Medical Officers endeavours from time to time, not unsuccessfully, to lighten. Whatever the result of our association's endeavours may be, its representations to the Postmaster-General are at least always courteously received and considered.

Again, I see nothing unfair in what Dr. Bruce is pleased to call "the principle of wholesale selection," either to the "Post Office men" or to the "doctors left out in the cold." That a patient should at times prefer one doctor to another, the other being the official doctor, is of course inevitable. This is common every-day experience, and is not confined to cases under discussion.

It is even not an unknown thing for "Post Office men" or women to prefer the *official* doctor to one in private practice, apart from the free attendance given by the former. There can be no "element of slavery" in free contract, from which the *slave(!)* may retire whenever it pleases him to do so.

It is true there is a feeling of resentment at the present time amongst postal medical officers because of certain new duties they are asked to perform without further remuneration. These grievances have been ventilated in the two previous issues of this JOURNAL. Our association has already taken these matters up, and I would urge all postal medical officers who have not already joined our association to do so at once. The Honorary Secretary is Dr. Giddings, Mansfield Road, Nottingham. Its existence and authority to speak upon matters connected with the medical service of the Post Office have been recognized by the Postmaster-General and Permanent Head Quarter Staff, and questions relating to the Post Office Medical Service have by them been referred to it. The stronger it is numerically the more weight will its opinions carry.

In conclusion, may I suggest to Dr. Bruce that his letter, as coming from a late member of the General Medical Council, is scarcely calculated to help a very considerable section of general practitioners who hold these appointments, either in their position in the Postal Medical Service or in their relations with the profession generally.

The position of a postal medical officer is an extremely delicate one; he has a duty to perform both to the Department and to the officers under his medical care, and he has to avoid professional conflict with his fellow practitioners. Vigilance, tact, and courtesy he must possess in a considerable degree to enable him to steer safely through the shoals of his daily work.

Surely in entering into this correspondence we might reasonably have expected something better from Dr. Bruce than what he has given us.—I am, etc.,

GEORGE A. MASON,
President, British Postal Medical Officers' Association.

July 25th.

THE NEED OF AMALGAMATION OR FEDERATION OF POOR LAW OFFICERS AND ALLIED ASSOCIATIONS WITH THE BRITISH MEDICAL ASSOCIATION.

SIR,—I consider Dr. John Brown is greatly mistaken in his impression that the associations to which he refers can show "practically *no results*" to justify the expenditure of time and money their existences entail; and I feel that he must have surely been driven into making his assertion either from a want of knowledge of the actual facts, or from being one of those who imagine that every unsatisfactory feature connected with any given groove in life ought to be, and can be, obliterated and rectified in the twinkling of an eye.

Without entering into detail, I feel much confidence in rejoining that those who actually know will support me in maintaining that, at any rate, the association which I have had the honour and privilege of serving as honorary secretary for many years can claim to have achieved some very pronounced results, and results quite commensurate with its expenditure of time and money, thanks to the abilities and energies of its series of influential presidents and members of its executive, coupled with the hearty co-operation of its members.

The necessity for the continued separate existence of these associations is in my opinion undoubted, seeing that they deal with special conditions of professional work which those engaged in it can alone fully comprehend; but I think it is equally undoubted and essential that our British Medical Association, with its far-reaching and more general influence, should realize its imperative duty to be ever ready and willing to accord its invaluable assistance when desired or required by any one of these smaller specializing associations, if it is true, as we believe it to be, that it has at heart the interests and welfare of the entire profession.

In my opinion no better instance could be found of the absolute necessity for the existence of such special associations than in the perusal of a letter which appears in the last issue of the JOURNAL above that from Dr. Brown, and which emanates from the pen of the eminent Dr. William Bruce. Dr. Bruce's letter displays a total ignorance of the special type of work that is required at the hands of the medical officers to the Post Office—especially in large centres—work which neither the Postmaster-General, nor any other employer of upwards of 200,000 officers, could ever possibly expect to have performed for him excepting through the channel that the medical men performing it are entirely in his employ and absolutely under his direct control. Under Dr. Bruce's proposed system the medical man who had a reputation for granting easy and generous sick leave, and for invariably screening officers when incapacitated for duty by alcohol, etc.—in fact, the medical man who solely "played up" to the staff regardless of the interests of the department, and therefore of the public, would become the popular man locally, and his emoluments would expand with his easy-going popularity.

Any one who knows the true state of matters is alive to the fact that postal medical officers have a dual and ever extremely delicate duty to discharge, and one which it would be impossible to expect medical men, who, after all, are very human, to perform in anything like a publicly satisfactory manner if their annual income from this source was made to depend very largely, if not entirely, on their popularity with a local Post Office staff.—I am, etc.,

R. R. GIDDINGS,
Honorary General Secretary, the Association of British Postal Medical Officers.

Nottingham, July 24th.

RURAL DISTRICT NURSING ASSOCIATIONS.

SIR,—Adverting to a letter signed "G. P." appearing on pages 1153 and 1154 of the BRITISH MEDICAL JOURNAL of May 8th under the above heading, complaining of the conduct of a certified midwife, I am directed to inform you that the Central Midwives Board had the matter under consideration at its last meeting.

The Board had been furnished with statements signed respectively by the writer of the letter and by the executive officer of the local supervising authority.

After careful consideration of all the facts submitted to the Board, the following resolution was passed:

> That, as the midwife has already been reprimanded by the local supervising authority for the error she committed, and as in other respects the statements of "G. P." do not appear to be substantiated, no further action be taken in the matter.

—I am, etc.,

G. W. DUNCAN,
Secretary.

Central Midwives Board, Caxton House, Westminster, London, S.W., July 26th.

RAMSEY, ISLE OF MAN.

SIR,—Under Parliamentary Notes in the JOURNAL of July 17th reference is made to an official inquiry into the insanitary condition of "Ramsey"—evidently our Huntingdon namesake.

My Health Committee feel that the casual reader might easily mistake the reference as applying to our favourite watering place, and consider that, in further reports, a liberal use of italics—with Huntingdon written large—is due to us, lest in the confusion of names it be assumed that we have departed from our hitherto exceptional sanitary reputation. I am, etc.,

J. M. BARBOUR, M.B.,
Medical Officer of Health, Ramsey, Isle of Man.

July 22nd.

Medico-Legal.

ENGAGEMENT OF LOCUMTENENT BY TELEPHONE.

A CORRESPONDENT (X. Y. Z.) writes that he was engaged and accepted an engagement as locumtenent by telephone for a fortnight. The same evening he received a telegram cancelling the engagement without any explanation. In the meantime, he states, he refused other engagements in consequence. He wishes to know what is his legal position.

*** An engagement could not be legally terminated in the manner stated by our correspondent. He is entitled to sue on it, and to recover any damages he can prove he suffered in consequence. Under the circumstances an amicable arrangement should be possible. The leading case on this subject is Hochster *v.* De la Tour, 22 L.J., Q.B. 455. It must not be forgotten that an engagement by telephone may be difficult to prove.

MEDICAL OFFICERS TO CLUBS AND BONESETTERS.

A CORRESPONDENT writes that he is medical officer to a club, one of the members of which called in a bonesetter to attend him for an injury to his ankle. The bonesetter had given a certificate, which had been accepted by the club, but the club secretary had demanded a certificate also from the medical officer, which he had refused to give. He wished to be advised as to his position as medical officer to a society which accepted certificates from a bonesetter.

*** The club is acting illegally under the Friendly Society Acts in accepting a certificate from an unregistered practitioner, and if making payments on such certificate, those paying are liable to be compelled to make good the money. In our opinion our correspondent, as medical officer, can be required to visit and examine the patient and to certify as to his injury, although he cannot be compelled to attend him while under the treatment of a bonesetter.

Medico-Ethical.

The advice given in this column for the assistance of members is based on medico-ethical principles generally recognized by the profession, but must not be taken as representing direct findings of the Central Ethical Committee.

RADIOTHERAPY AND ELECTRO-THERAPEUTICS.

VACUUM asks whether any ethical exception could be taken to a medical man practising radiotherapy renting a room in a pharmaceutical establishment, for installing apparatus with a view to affording such treatment to a large class who cannot afford large fees, but who are precluded from availing themselves of public hospital treatment? Also whether he could with propriety affix his name plate on the door, indicating his hours of attendance for *x*-ray and light treatment? He suggests as a precedent that it is customary for general practioners to attend pharmaceutical establishments at certain fixed hours, duly notified on the door plates, for the purpose of prescribing medicinal remedies for those unable to consult them at their residences.

*** The objection there is to medical men choosing chemists' shops as suitable places in which to carry on their practice has frequently been pointed out.

Obituary.

WE regret to announce the death of Mr. OGLETHORPE WAKELIN BARRATT, which took place on July 9th, in his 83rd year. He was one of the oldest medical practitioners in Birmingham, and continued in practice until a few months ago, when it became necessary for him to give up his work owing to his great age. He was a Birmingham man, and received his medical education at the Queen's College. He obtained the diploma of L.S.A. in 1849, and those of L.R.C.P.Edin. and M.R.C.S.Eng. in 1859. He was House-Surgeon at the Queen's Hospital, Birmingham, and later was in medical charge of an Australian emigrant ship. He ultimately settled in practice in Holloway Head, Birmingham, and became very widely known and highly respected. He was a Liberal in politics, and for a time served on the Birmingham Board of Guardians. He was an elder brother of Alderman Alfred Barratt, and his son, Dr. Wakelin Barratt, is working in the cancer research laboratories in the University of Liverpool. The funeral took place on July 13th at Castle Bromwich.

Universities and Colleges.

UNIVERSITY OF EDINBURGH.

GRADUATION CEREMONIAL.

THE closing scene of the summer session—the Graduation Ceremonial—took place in the M'Ewan Hall on Friday, July 23rd, at 10 o'clock, the Vice-Chancellor (Principal Sir William Turner) presiding.

The Honorary Degree of Doctor of Laws.

The Dean of the Faculty of Law (Professor Sir Ludovic Grant) presented the Right Hon. George Wyndham, M.P., D.C.L., Lord Rector of the University of Edinburgh, for the honorary degree of LL.D.

In absentiâ, because of the state of her health, the same degree was conferred on Madame Curie, Docteur ès Sciences, Professeur à l'Ecole Normale Supérieure, Sèvres.

The Degree of M.D.

On the motion of the Promoter (Professor Sir Thomas R. Fraser), the degree of M.D. was conferred on the following sixty-nine candidates, who were individually presented by the Dean of the Faculty of Medicine (Professor Harvey Littlejohn):

*Ainscow, James Allen, England, M.B., Ch.B., 1906; Anderson, Alford William, Scotland, M.B., C.M., 1891; Archibald, Marion Hamilton, (M.A.), Scotland, M.B., Ch.B., 1908; Blacklock, Breadalbane, Scotland, M.B., Ch.B., 1902; Buchanan, Walter James, Burma, M.B., C.M., 1896; *Coldicutt, Claude Ernest Addison, New Zealand, M.B., Ch.B., 1907; *Cculson, Thomas Edmund, England, M.B., Ch.B., 1904; Cunningham, Barbara Martin, Scotland, M.B., Ch.B, 1901; Cunningham, Francis William Murray, Scotland, M.B., Ch.B., 1907; *Dalgleish, John, British Guiana, M.B., Ch.B., 1901; Dill, Marcus Graham (Lieutenant R.A.M.C.), Scotland, M.B., Ch.B., 1905; Elliston, Chatterton Eric, England, M.B., Ch.B., 1905; *Fletcher, Hugh Nethersole, England, M.B., Ch.B., 1903; Geikie, James Stewart, Scotland, M.B., Ch.B., 1900; *Giles, John Dudgeon, Scotland, M.B., Ch.B., 1903; *Girdwood, James (M.A.), Scotland, M.B., Ch.B. (with second class honours), 1903; Hamilton, Robert, England, M.B., Ch.B., 1901; Hislop, Patrick Wood, Scotland, M.B., C.M., 1889; *Hogg, Katie Welton (B.A.), Australia, M.B., Ch.B., 1900; *Hunter, Charles William, Scotland, M.B., C.M., 1886 (*in absentiâ*); *Harries-Jones, Evan Harries, Wales, M.B., C.M. (with second class honours), 1897; Irvine-Jones, Henry, Wales, M.B., C.M., 1896; Jardine, John, Scotland, M.B., Ch.B., 1904; Jones, Edward Hughes, Wales, M.B., C.M., 1890; Kock, Julius George de, South Africa, M.B., Ch.B., 1907; ***Landon, George Francis Stirling, England, M.B., Ch.B., 1904 (with first class honours); **Ledger, Archibald George Kirkwood, England, M.B., Ch.B. (with second class honours), 1906 (with second class honours); Lee, Alaister Fraser, Scotland, M.B., Ch.B., 1907 (*in absentiâ*); ***Macdougall, Wm. (M.A.), Scotland, M.B., Ch.B., 1901 (with first class honours); *** MacGilchrist, Archibald Currie (M.A.), (Captain, I.M.S.) Scotland, M.B., Ch.B. (with first class honours), 1898 (with first class honours) (*in absentiâ*); *** M'Gowan, John Pool (M.A., B.Sc.), Scotland, M.B., Ch.B. (with first class honours), 1904 (with first class honours); * M'Hattie, Thomas John Tyndale, Scotland, M.B., Ch.B., 1897; M'Kelvie, John Douglas, England, M.B., Ch.B., 1905; ***Mackenzie, Alister Thomas (M.A.), Scotland, M.B., Ch.B., 1907 (with first class honours); *MacKessack, Robert John (M.A.), Scotland, M.B., Ch.B.' 1904; M'Millan, John James, Scotland, M.B., Ch.B., 1903; ** M'Turk, John Norman, England, M.B., Ch.B. (with second class class honours), 1906 (with second class honours); **Marshall, Legh Richmond Herbert Peter, Scotland, M.B., Ch.B., 1907 (with second class honours); *Mathers, Robert Pirie, Scotland, M.B., Ch.B., 1906; Mitchell, Alexander Philp, Scotland, M.B., Ch.B., 1907; Morison, John, Scotland, M.B., C.M., 1892; Mowat, Robert Stewart, England, M.B., C.M., 1894; Munro, Neil Gordon, Scotland, M.B., C.M., 1888 (*in absentiâ*); Murray, Donald Sutherland, Scotland M.B., Ch.B., 1904; Norman, George Percy, England, M.B., Ch.B., 1905; Paterson, Arthur Thomas, New Zealand, M.B., Ch.B., 1907; ***Pattie, Charles Fulton, New Zealand, M.B., C.B. (with first class honours), 1907 (with first class honours); Paul, David Hutcheon, Scotland, M.B., Ch.B., 1905; *Philip, James, Scotland, M.B., C.M., 1894; **Porter, Agnes Ellen, Scotland, M.B., Ch.B., 1906 (with second class honours); Renton, James Murray (M.A.), Scotland, M.B., C.M., 1891 (*in absentiâ*); Rhys, Owen Lewellin, Wales, M.B., Ch.B., 1900; Roberts, Thomas Ernest, Scotland, M.B., Ch.B., 1906; **Robinson, Amy, England, M.B., Ch.B., 1903 (with second class honours); *Scott, Francis Lidderdale, New Zealand, M.B., Ch.B., 1907; Shepheard-Walwyn, Alfred Irving, England, M.B., Ch.B., 1905; Stuart, Charles, Scotland, M.B., C.M., 1891; Tarr, William, (Captain, I.M.S.), England, M.B., Ch.B., 1898; Taylor, James Anderson (M.A.), India, M.B., C.M., 1889; Telford, Robert Whitson, Australia, M.B., C.M., 1905; Tewsley, Cyril Hocken (M.A.), New Zealand, M.B., Ch.B., 1906 (*in absentiâ*); Thomson, Hedley Barry, Australia, M.B., Ch.B., 1907; *Thwaits, James Alexander, South Africa, M.B., C.M., 1895; Ussher, George Herbert, New Zealand, M.B., Ch.B., 1904; *Verteuil, Fernand Louis de (Surgeon, R.N.), Trinidad, M.B., Ch.B., 1905; Wallace, John Andrew Leslie, Scotland, M.B., Ch.B., 1903; Walton, Robert Henry, Wales, M.B., Ch.M., 1906 (*in absentiâ*); Williams, John Clarkson Birkbeck, England, M.B., Ch.M., 1907; Williamson, David James, England, M.B., Ch.B., 1907.

*** Awarded Gold Medals for their theses.
** Highly commended for their theses.
* Commended for their theses.

The Degree of C.M.

The degree of Master of Surgery was conferred on William Maxwell Munby, England, M.B., Ch.B., and on David Percival Dalbreck Wilkie, Scotland, M.B., Ch.B., M.D., who was awarded a gold medal for his thesis.

The Degrees of M.B., Ch.B.

The degrees of Bachelor of Medicine and Bachelor of Surgery were conferred on the following 103 candidates:

Armstrong, Fergus, Wales (*in absentiâ*); Babington, Alice Elizabeth May, (B.A.), Ireland; Balfour, Thomas Henry, Scotland; Borthwick, Thomas Chalmers, Scotland; Bose, Ajit Mohan, India (*in absentiâ*); Brand, William Gillon, Scotland; Brodziak, Frank Adolphus James, Cape Colony; Brown, Gavin Stiell, Scotland; Bruce, Alexander Ninian, (D.Sc.), Scotland (with second class honours); Buist, William Frederick, Scotland; Bulloch, Oswald Symes, Scotland; Burgess, William Leslie, Scotland (with first class honours); Burjorjee, Bhumonjee Nowrojee, Burmah; Burt, Leonard Andersen Pearce, England; Burton, Alfred William, Cape Colony (with second class honours); Buyers, Sarah Ellice, Scotland; Campbell, James Argyll, Australia (with second class honours); Carter, Humphrey Gilbert, England; Carter, Joseph Adolphus Hamilton, Trinidad; Cawkwell, George Law, New Zealand; Chamberlain, Ralph Brereton, Ireland; Child, Armando Dumas, England; Christie, William Francis, Scotland; Chrystall, William Purvis, New Zealand; Coward, Noël Anthony, England; Crocket, James, Scotland; Dickie, John Kolbe Milne, Scotland; Dreaper, Adelaide Anna, Ireland; Elliott, Alfred Moore, Ireland (with second class honours); Feltham, Herbert George, New Zealand; Ferguson, John Bell, Scotland; Fismer, Gerhard Friedrich, Cape Colony; Gardner, Mary Muter, Scotland; Garnett, Graham Hogg, British Guiana; Gill, Alexander Wilson, Scotland; Goss, Walter Ethard, England; Grant, Alexander George M'Pherson, Scotland; Gupta, Satis Chandra Sen, India; Hamilton, Allan George, England (with second class honours); Hamilton, Henry Fleming, England (with first class honours); Harkness, Robert Coltart, Scotland (with first class honours); Harwood, Thomas Eustace, (B.A.), England (with second class honours); Inglis, George Russell, England (with second class honours); Innes, Flora Riddell, Australia; Jardine, William Christopher, Scotland; Jones, Archibald Mason, Wales; King, George Edwin, England (with first class honours); Lawry, Josiah Howard, New Zealand (with second class honours); Leslie, Leonard, Scotland; Lethem, Cecil Robertson, Scotland; Logan, William Robertson, Scotland; Low, Mary, (M.A.), Scotland; Lumsden, Harry Foote, Scotland; Macaskill, Donald Cameron (M.A.), Scotland; MacCallum, Alexandra Barbara, Scotland; Macdonald, William, Scotland; Mackay, George Edward Gray, Scotland (with second class honours); M'Keand, James M'Connell, Scotland; M'Kenzie, Archibald Duncan, Natal; MacLeod, Alexander Gordon, Scotland; Macmillan, Robert James Alan, Scotland; MacQueen, Ronald Chesney, England; Macvie, Andrew Jamieson, Scotland; Malloch, John, Scotland; Marais, Charles Gerard, Orange River Colony; Mathewson, Thomas Henry Reeve, Australia; Messer, William, Scotland; Middleton, Edward Loggie, Scotland (with second class honours); Millar, Alexander Fleming Wilkie, Scotland; Mitchell, Lachlan Martin Victor, Scotland; Moore, Stevenson Plumbe, Ireland; Morrison, William, Scotland; Mortimer, John Alexander, Scotland; Moyes, John Murray, Scotland; Muncaster, Anna Lilian, Scotland; Oag, James (M.A.), Scotland (with second class honours); Pillai, Govinda Raman, India; Reid, Eric M'Kay, England; Renwick, John, Scotland (with second class honours); Robertson, Duncan Glenerochie, Australia (*in absentiâ*) (with second class honours); Robertson, William Stewart, New Zealand; Ross, Dermid Maxwell, Scotland; Ross, William (M.A.), Scotland; Rosser, Richard Picton, England; Schaffter, Charles Merill, England; Shaw, John James M'Intosh (M.A.), Scotland; Simpson, Kerr, Scotland; Sinclair, George Hulseberg, England; Smith, Henry Faithful (B.A.), England; Sowden, George Smith (M.A.), Scotland; Sprent, James (B.Sc.), Tasmania; Stewart, William, Scotland; Stranaghan, Cyril Patrick Andrew, Wales; Swan, James, Scotland; Taylor, Arthur Loudoun (B.Sc.), Scotland; Teague, Henry William, England; Thompson, John Alexander, Ireland; Thomson, Wyville Smyth, Scotland; Watson, Allan, Scotland; Whetter, John Pearce, England; Wilson, John, Scotland; Wilson, John Dykes (M.A.), Scotland (with first class honours); Young, Margaret Chapel, Scotland.

Diploma in Tropical Medicine and Hygiene:

This diploma was awarded to:

Dyer, Ethelbert William, M.B., Ch.B., and Robinson, Joseph, M.B., Ch.B.

Thesis Gold Medals were awarded to:

George Francis Stirling Landon, M.D., William MacDougall, M.A., M.D., Archibald Currie MacGilchrist (Capt., I.M.S.), M.A., M.D., John Pool M'Gowan, M.A., B.Sc., M.D., Alister Thomas Mackenzie, M.A., M.D., Charles Fulton Pattie, M.D., and David Percival Dalbreck Wilkie, M.D., Ch.M.

Fellowships, etc.

The following Fellowships, Scholarships, Medals, and Prizes were awarded:

Goodsir Memorial Fellowship to Charles Fulton Pattie, M.D., Ch.B.; *Milner Fothergill Gold Medal in Therapeutics* to Alister Thomas Mackenzie, M.A., M.D., Ch.B.; *Ettles Scholarship* to Robert Coltart Harkness, M.B., Ch.B.; *Allan Fellowship in Clinical Medicine and Clinical Surgery* to Alfred Moore Elliott, M.B., Ch.B.; *Freeland Barbour Fellowship* to Duncan Glenerochie Robertson, M.B., Ch.B.; *M'Cosh Graduate's and Medical Bursaries* to John Dykes Wilson, M.A., M.B., Ch.B.; *Murchison Memorial Scholarship in Clinical Medicine* to Alexander Gibson, M.A., M.B., Ch.B.; *Proxime accessit*—Joseph Godwin Greenfield, B.Sc., M.B., Ch.B. *Beaney Prize in Anatomy and Surgery* to Allan George Hamilton, M.B., Ch.B.; *Mouat Scholarship in the Practice of Physic* to Satis Chandra Sen Gupta, M.B., Ch.B.; *Conan Doyle Prize* to Alfred William Burton, M.B., Ch.B.; *Buchanan Scholarship in Gynaecology* to Robert Coltart Harkness, M.B., Ch.B.; *James Scott Scholarship in Midwifery* to James Sprent, B.Sc., M.B., Ch.B.; *Dorothy Gilfillan Memorial Prize* to Mary Muter Gardner, M.B., Ch.B.; *Pattison Prize in Clinical Surgery* to Alexander Ninian Bruce, D.Sc., M.B., Ch.B.

Degree of D.Sc.

The degree of Doctor of Science was conferred on:

Alexander Ninian Bruce, B.Sc., M.B., Ch.B.; James Patrick Longstaff, B.Sc.; and Henry Walker, M.A., B.Sc.

Degree of B.Sc.

The degree of B.Sc. in the Department of Public Health was conferred on Andrew Gray Carment, M.B.

Address to the New Graduates.

The Promoter, Professor Sir Thomas R. Fraser, after offering his congratulations to those who had just been "capped," said this was the third occasion on which the duty of addressing the graduates had fallen to him. The intervals separating these occasions were to be measured by considerable numbers of years. During that time he had lost many friends and colleagues. There no longer remained in the Faculty of Medicine any one of the members who constituted that Faculty when he had the honour of becoming a Professor; and even in the Senatus there was only one member, the Professor of Sanscrit. When he first became a member, the Faculty of Medicine contained so distinguished members as Rutherford, Grainger-Stewart, Simpson, Wyville-Thomson, Crum-Brown, Balfour, Sanders, and Lister. Again, when he compared with to-day the occasion when he was Promoter for the second time in 1894, there remained of those appointed to fill the vacancies that had occurred only three professors out of the full complement of twelve, namely, Greenfield, Cossar-Ewart, and Simpson. To-day they deeply lamented the recent death of Dr. Cunningham, the Professor of Anatomy and Dean of the Faculty of Medicine, a life cut off in the maturity of its prime. That resignation of Professor John Chiene and the appointment of his successor, Henry Alexis Thomson, were referred to. He had no intention of reviewing the vast field of the changes which were represented in the University Acts and in reformed if not improved curricula. The last time he acted as Promoter he appealed for the furtherance of original research in the university. It was most gratifying to find that during the succeeding fifteen years a remarkable advance had been made in this high department of education. Former apathy had given place to an active policy of encouragement of original work. The high standard which, during recent years, had characterized so many theses of doctors of medicine, was a gratifying evidence of its advance as well as of the work after graduation of so many graduates of the university. There were now large means for research, but more were wanted. The university might develop, and thereby increase her usefulness, in the increase and further development of the specialities. Surgery, midwifery, gynaecology, had become recognized as subjects separated from general medicine, and requiring the chief attention of those who had specially attached themselves to these departments of the science and practice of medicine. There were, however, other subjects that were now ripe for similar separate recognition, among which might be instanced insanity, ophthalmology, diseases of the nose, ear, and throat, and perhaps also diseases of the nervous system, excluding insanity. There should be special courses of instruction in these specialities, which should generally extend over a period of something like nine months. The successful student or graduate would then be accorded a diploma implying that he had been specially instructed in the subject, and giving a valuable guarantee to the claim, and special knowledge in any department of medical practice was a well-founded claim. In the meantime the university had instituted a diploma for specialized study in the subject of tropical diseases only. The requirements of advanced study fully existed also in the highly important subject of public health, and the need of a diploma with preparation restricted to a single academic year was being demonstrated by the large number of their graduates who proceeded to Cambridge, London, and elsewhere to obtain a diploma unobtainable at their own university. There seemed no reason why this diploma should not be instituted in addition to the existing degrees in science and in public health, which, after all, were taken by an insignificantly small number of their medical graduates. Many of to-day's graduates would continue to, or were about to engage in, original research. The nature of the work was in many respects peculiarly fitted for the youthful mind, as enthusiasm and the powers of inception and of imagination were among the most valuable of the requirements for success. The important fact, however, was that higher education by research had now established for itself a firm position in their university system, and its further development might be regarded as assured.

After the Benediction the new graduates filed on the platform and shook hands with the Vice-Chancellor and members of the Senatus.

A luncheon was given in the University Union in honour of the occasion. Some two hundred were present. The King having been honoured, the toast of "The Guest" was given from the Chair (Mr. J. J. M. Shaw, M.A., M.B., Ch.B., President of the Union), and Mr. Wyndham replied. Sir Robert Stout proposed "The University," and Sir William Turner replied. Sir Thomas R. Fraser gave "The Union," and the remaining toast was that of "The Chairman."

UNIVERSITY OF LONDON.

LONDON HOSPITAL MEDICAL COLLEGE.

PRIZE DAY was held on Monday, July 19th, the awards being distributed by the Treasurer of the hospital, the Right Hon.

the Earl of Derby. The winners of the more important prizes were as follows: The *Scholarships in Clinical Surgery, Medicine, and Obstetrics*, each of the value of £20, Messrs. A. H. Penistan, W. J. O'Donovan, and C. Cushue-Taylor; the *Sutton Scholarship* (£20), A. H. Penistan; the *Scholarship in Anatomy and Physiology* (£25), and in *Anatomy and Biology* (£20) both went to T. D. Williams; the *Senior Letheby Prizes* in Organic and Inorganic Chemistry (each £10), J. R. K. Thompson and E. Morley; the *Junior Letheby Prize* in Chemistry and Physics (£10), T. H. Thomas; the *Duckworth Nelson Prize* (£10), A. H. Penistan. Besides these some seventeen other awards were distributed, ranging in value from £15 downwards, as well as a number of certificates.

LONDON SCHOOL OF TROPICAL MEDICINE.

THE summer session which has just come to a close has been one of the most successful on record. Fifty-one students took out the course. The accommodation at the school provides for only forty students in the general laboratory, and about five in each of the special departments. With the present classes, the school has been much overcrowded. Thanks to the generosity of a friend of the school, the laboratories will be enlarged during the long vacation, and it is hoped that when the school reopens in October there will be sufficient accommodation for all who desire to go through the curriculum, even if they are more numerous than in the present session. At the terminal examination the following students passed:

*Dr. P. Bahr, *Dr. P. J. de Miranda, *Dr. J. A. Harley (Colonial Service), *Captain R. Brooke (U.S. Army), *Captain R. A. Lloyd (Indian Medical Service), Major C. H. Bowle-Evans (Indian Medical Service), Dr. W. E. Giblin, Captain J. L. Lunham (Indian Medical Service), Dr. T. Chalmers, Dr. W. H. Peacock (Colonial Service), Dr. A. Lundie (Colonial Service), Dr. G. A. Turner, Dr. W. H. Sieger (Colonial Service), Dr. C. L. Strangman, Dr. T. F. Bayfield (Colonial Service), Dr. G. F. Forde (Colonial Service), Dr. R. C. Macpherson (Colonial Service), Dr. J. Guillen, Dr. W. Parsons, Dr. G. J. W. Keigwin (Colonial Service), Captain G. King (Indian Medical Service), Dr. J. M. O'Connell (Colonial Service).

The students against whose names an asterisk is placed passed with distinction.

ST. GEORGE'S HOSPITAL MEDICAL SCHOOL.

DR. H. D. ROLLESTON is orator for the day at the inauguration of the new session on October 1st, at 3 o'clock, and will take for his subject, St. George's and the Progress of Physic. The oration will be followed by the annual meeting of the St. George's Club. The annual dinner will be held at the Prince's Restaurant in the evening at 6.30 for 7 p.m., Mr. A. Marmaduke Sheild, F.R.C.S., Consulting Surgeon to the Hospital, in the chair. Tickets may be obtained from the Honorary Secretaries, Medical School Dinner, St. George's Hospital, S.W.

UNIVERSITY OF DURHAM.

THE following candidates have been approved at the examinations indicated:

FIRST M.B.—E. Johnson, L. E. Markham, R. P. Ninnis, J. L. Pringle, F. B. Robson, J. S. Soutter, G. S. Woodman, *G. A. Berkeley-Cole, *G. Carse, *C. Duncan, *I. D. Evans, *R. L. Kitching, *R. A. Hooper, *Nora Murphy, *F. J. Nattrass, *Carinna A. B. O'Neill, *Grace W. Pailthorpe, *E. Ritson, *A. Sutcliffe, *C. O. Shackleton, †W. Lessey, †I. M. Pirrie, †F. S. Rood, ‡G. E. Stephenson.

* Chemistry and Physics only.
† Elementary Anatomy and Biology only.
‡ Elementary Anatomy only.

SECOND M.B. (*Anatomy, Physiology, and Materia Medica*).—R. G. Badenoch, E. Babst, J. J. Brown, T. R. Burrell, J. W. Craven, Evelyn A. Constable, Sarah L. Green, N. Hodgson, J. Kerr, F. J. Lidderdale, J. G. Ogle, C. O'Hagan, L. G. Pearson, F. Phillips, B.A.; T. C. Storey, Eleanor Walkinshaw, S. K. Young.

THIRD M.B.—†J. H. Barclay, *M. Brennan, O. F. D. Airth, J. B. Alderson, W. H. I. Bathurst, T. A. Hindmarsh, W. Hudson, H. L. James, F. H. Kennedy, J. Lumb, J. H. Owen, T. A. Peel, E. Jessie Ramsbotham, Madeline R. Shearburn, C. J. V. Swahnberg, C. S. Thompson, Olivia N. Walker, A. H. Wear.

* Second class honours. † First class honours.

AT the Convocation holden on Saturday, July 24th, the following degrees were conferred:

DEGREE OF M.D.—V. E. Badcock, M.B., B.S.Durh.; C. W. M. Hope, M.B., B.S.Durh., F.R.C.S.; Elizabeth N. Niel, M.B., B.S., B.Hy., D.P.H.Durh.; H. B. Stephenson, M.B., B.S.Durh.

DEGREE OF M.D. FOR PRACTITIONERS OF FIFTEEN YEARS' STANDING.—T. W. Bartlett, L.R.C.P.and S., L.F.P.S.Glasg.; J. Gay, M.R.C.S., L.R.C.P.; H. J. Hildige, L.R.C.P.and S.Irel.; J. L. Jeaffreson, M.R.C.S., L.R.C.P., L.S.A.; E. S. Marder, M.R.C.S., L.R.C.P.; J. A. Nolan, M.R.C.S., L.R.C.P.and S., L.F.P.S.Glasg.; E. E. Norton, M.R.C.S., L.R.C.P., D.P.H.; C. Reidy, B.A., L.R.C.P. and S.Edin.; E. Ringrose, M.R.C.S., L.R.C.P.; J. G. Uppleby, L.R.C.P.and S.; A. H. Walker, M.R.C.S., L.R.C.P.

DEGREE OF M.B.—W. Barkes, A. H. Bower, J. G. Campbell, M.A., H. A. Cooper, P. A. Galpin, F. F. T. Hare, J. P. Jackson, Theresa De G. Miller, Ruth Nicholson, R. Raffle, H. W. Sykes, Dorothea M. Tudor, G. H. Wood.

DEGREE OF B.S.—W. Barkes, A. H. Bower, J. G. Campbell, M.A., H. A. Cooper, P. A. Galpin, F. F. T. Hare, J. P. Jackson, Theresa De G. Miller, Ruth Nicholson, R. Raffle, H. W. Sykes, Dorothea M. Tudor, G. H. Wood.

DEGREE OF B.HY.—S. Havelock, M.B., B.S., B.Sc.Durh.; H. B. Stephenson, M.B., B.S.Durh.; T. L. Wormald, M.B., B.S.Durh.

Diploma in Public Health was awarded to:

S Havelock, M.B., B.S., B.Sc.Durh.; W. T. Sewell, M.D., B.S.Durh.; H. B. Stephenson, M.B., B.S.Durh.; F. T. H. Wood, M.D., B.S., B.Sc.Lond.; T. L. Wormald, M.B., B.S.Durh.

UNIVERSITY OF BIRMINGHAM.

FACULTY OF MEDICINE.

THE following is the list of successful candidates at the examinations for medical degrees in June, 1909:

FINAL M.B., CH.B.—(*a*) *Official:* William Frederick Haslam, Percival Pasley Cole.

(*b*) *Under Ordinary Regulations:* †Walter Charles Blackham, Herbert Henry Sampson, Harold Cairns Terry, Ethel Annie Waldron, Kenneth Douglas Wilkinson.

FOURTH M.B., CH.B. (*Forensic Medicine and Toxicology and Hygiene and Public Health*).—*Class I:* *Eric Walter Assinder.

Class II: Elizabeth Stephens Impey, Arthur Harry Newton, John Lichtenstein Ritchie, Cranston Walker.

THIRD M.B., CH.B. (*Pathology and Bacteriology and Materia Medica and Pharmacy*).—*Class I:* *Oscar Madeley Holden.

Class II: James Henry Bampton, Robert Baxendell Coleman (Materia Medica and Pharmacy), Christopher Charles Cole Court (Pathology and Bacteriology), Evan Davies (Pathology and Bacteriology), Travis Hampson (Pathology and Bacteriology), Charles William Hayward (Pathology and Bacteriology), Elizabeth Stephens Impey (Materia Medica and Pharmacy), Charles Crawford Jones, Douglas Noel Macleod (Pathology and Bacteriology), Ronald Douglas Nelson, Percy Alfred Newton, Arthur McLean Pickup (Materia Medica and Pharmacy), Charles Ernest Salt, Arthur Christopher Tibbits.

SECOND M.B., CH.B. (*Anatomy and Physiology*).—*Class II:* George Herbert Alabaster, Edward Bach, Ralph Alexander Broderick, Eric Francis Buckler, Elsie Mary Humpherson, John Christopher Jones, John Burman Lowe, Douglas Noel Macleod, Horace Clarence Nickson, Herbert Sheasby, Charles Lovell Spackman.

FIRST M.B., CH.B. (*Chemistry, Physics, and Biology*).—*Class II:* Elizabeth Labrey Ashby, Robert Ellis, James Henry Ritchie, Thomas Sidney Stafford (Biology).

External Candidates: Koch Harry Gill (Chemistry and Biology), Alfred Percy Smith.

DEGREE OF B.SC. IN PUBLIC HEALTH.—Parts I and II.—*Class II:* John Dale.

DIPLOMA IN PUBLIC HEALTH.—Parts I and II: William Morton Hewetson, Alexander McDonald Nevin.

Part II (to complete Examination): James Allen Ainscow, James Fenton, Claude Johnson, Reginald Woolsey Stocks, Leonard Leigh Hadley.

Part I: Richard Clayton Allen, Donald Buchanan, John Milne Dalrymple, Philip James Mason.

FIRST EXAMINATION FOR THE DIPLOMA IN DENTAL SURGERY (*Chemistry and Physics*).—Arthur Bernstein.

* Queen's Scholarship. † Ingleby Scholarship.

UNIVERSITY OF LIVERPOOL.

THE following candidates have been approved at the examinations indicated:

FIRST M.B., CH.B. (*Parts I and II*).—C. W. Dixon, J. R. Jones, E. B. Marsh, A. C. Mooney, H. S. Pemberton, R. E. Roberts, J. St. G. Wilson.

FIRST M.B., CH.B. (*Part II*).—F. A. Belam, A. D. Bigland, H. E. Marsden, R. Martley, Beatrix M. Walker.

SECOND M.B., CH.B. (*Part A*).—D. H. Clarke, R. C. Crooke, J. E. Getting, R. Heald, N. P. Laing, J. Loudon, G. W. Mooney.

SECOND M.B., CH.B. (*Part B*).—R. W. Gemmell, M. T. Morgan.

FINAL M.B., CH.B. (*Part I*).—J. Bemforth, J. E. Barnes, J. Campbell, A. A. Dear, E. S. Miller, W. R. Wade, T. W. Wadsworth.

FINAL M.B., CH.B. (*Part II*).—K. J. C. Bradshaw, J. W. Cropper, W. A. Daley, A. G. W. Owen, N. W. Steinberg.

FINAL B.D.S.—F. Halsall.

FIRST L.D.S.—P. G. Capon, C. Q. Dinn, S. S. Tiffin, W. Williams.

SECOND L.D.S.—J. Burns, W. B. G. Jones, J. Tyson.

FINAL L.D.S.—G. P. P. Clapham.

UNIVERSITY OF BRISTOL.

Appointment of Pro-Vice-Chancellor.

AT a meeting of the council held on July 23rd, Professor J. Michell Clarke, M.A., M.D., F.R.C.P., was appointed Pro-Vice-Chancellor of the University of Bristol.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

AT a meeting of the College held on July 22nd, the following gentlemen were elected Fellows:

Richard William Anthony, M.B., C.M., Captain, Indian Medical Service; Alexander Watt Beveridge, M.B., Ch.B., Edinburgh; Frederic James Brodie, M.D., Toronto; Robert Donaldson, M.B., Ch.B., Liverpool; Ethelbert William Dyer, M.B., Ch.B., Edinburgh; Edward Alexander Elder, M.B., Ch.B., Edinburgh; Carlton Atkinson Ellis, M.R.C.S.Eng., London, N.; Ernest George Ffrench, M.D., Captain, Royal Army Medical Corps; Samuel Thompson Irwin, M.B., M.Ch., Belfast; Harley Patterson Milligan, M.D., Edinburgh; Ronald Roderick Murray, M.B., Ch.B., Edinburgh; Herbert Charles Orrin, L.R.C.S.E., Edinburgh; John Alexander Pottinger, M.B., Ch.B, Stromsay; Eliyatamby Visuvalingam Ratnam, L.R.C.S.E., Colombo; Harold Ernest Rawlence, M.B., M.R.C.S.Eng., Edinburgh; Alexander Macdonald Westwater, L.R.C.S.E., Liaoyang, Manchuria.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates passed in:

SURGERY.—*†H. A. Hancock, W. J. Morton, *†H. M. Pollard.

MEDICINE.—*J. M. Burke, †A. H. C. Dawes, *J. A. Jones, W. J. Morton, *†H. M. Pollard, *J. W. Williams.

FORENSIC MEDICINE.—H. V. Humphry, W. J. Morton, H. M. Pollard.

MIDWIFERY.—W. H. Hooton, E. B. Keen, G. Meyer, W. J. Morton, J. K. Nariman, H. M. Pollard.

* Section I. † Section II.

The diploma of the Society was granted to the following candidates, entitling them to practise medicine, surgery, and midwifery:

H. A. Hancock, W. J. Morton, and H. M. Pollard.

Letters, Notes, and Answers.

BRITISH MEDICAL ASSOCIATION AND BRITISH MEDICAL JOURNAL.

THE offices of the British Medical Association and of the BRITISH MEDICAL JOURNAL are at 429, Strand, London.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

COCAINE IN PARTURITION.

STOCKTON writes: Will any member having experience of the use of cocaine pessaries during the first or second stage of labour in primiparae of comparatively mature age be good enough to state dosage and frequency, and effect of treatment?

ANSWERS.

PARAFFIN AS A LUBRICANT FOR CATHETERS.

ALPHA.—We have referred this question to an expert, who writes: Paraffinum liquidum, *B.P.*, now commonly known as "liquid vaseline" is an excellent catheter lubricant, and has been employed for the purpose for at least fourteen years. It is neutral in reaction, without taste or smell, is not easily decomposed by heat, and boils at about 680° F. It is not a germicide, but is an undoubted inhibitor of microbic activity. It can be sterilized either by boiling in a vessel, or on the surface of water, without any danger whatever. (See BRITISH MEDICAL JOURNAL, July 29th, 1899, p. 263; May 25th, 1901, p. 1260 et seq.; June 15th, 1901, "Sterilization of Catheters," under Correspondence.)

THE CLIMATE OF NORTH CORNWALL.

A. H. T.—There is a great contrast between the climate of the south and the north coast of Cornwall. In the article on the climate of Cornwall (*Climates and Baths of Great Britain, being the Report of a Committee of the Royal Medical and Chirurgical Society of London*, vol. i, London, 1895, page 15), Dr. Howship Dickinson says: "In crossing the short distance which separates these coasts, possibly not more than ten miles, we exchange the bracing character of the north-west for one producing limpness and depression, and indisposing the traveller for exertion to which before he was incited by the influences around him."

THE PUPILS IN APICAL PNEUMONIA.

DR. W. B. WINCKWORTH (Taunton) writes: In reply to Dr. Martin's inquiry, the following extract from vol. viii (1893) of the *Westminster Hospital Reports* may be of interest. In the analysis of some cases of lobar pneumonia the then medical registrar (Dr. W. A. Wills) writes: "The equality and inequality of the pupils during the attacks of pneumonia has been observed in 103 of the cases (60, 1891; 43, 1892). In 48 where only one lung was affected the pupils were equal throughout. In 7 where both lungs were affected they were equal. In 36 the larger pupil was on the same side as the affected lung; in 12 on the opposite side." No special note appears to have been made of those cases in which the lesion was limited to the apex.

H. E. K. writes: Dr. J. H. Martin will find the information he requires in an article on pneumonia by Laudouzy and Griffon in vol. xxix of Brouardel et Gilbert's *Nouveau traité de médecine et de thérapeutique* (page 152 et seq.). Dilatation of the pupil is not peculiar to apical pneumonia.

ANTIDIPHTHERIA SERUM IN ASTHMA.

M. K. A. writes: In reference to "Asthma's" request (BRITISH MEDICAL JOURNAL, July 24th, p. 247) for information regarding the treatment of asthma by antidiphtheritic serum, the following facts may be of interest. I have been afflicted by asthma for the past twenty years, but recently the attacks have been diminishing in frequency and severity. After a whole year's freedom from any symptom of the disease, I received an injection of the antitoxin (2,000 units) as a prophylactic measure. Within ten days I had a very severe reaction, and was compelled to remain in bed for a couple of days until the rash disappeared and the swelling at my wrists and ankles subsided. At the end of a fortnight from the day I received the injection I was again invalided with a very severe type of asthma, characterized by a very copious expectoration. This the physician who attended me described as a bronchiolitis exudativa. Following on this paroxysm, the usual nocturnal type of the disease annoyed me nearly every night for quite three months with occasional exacerberations of a severer nature. After seven months it has again disappeared almost completely. It is well known that asthmatics are very liable to a reaction after injection of antitoxin, and that the disease itself may be influenced by the injection, but in my case it seems to have exerted a harmful influence, temporary, at any rate. Of course, there may have been no connexion between the increased frequency of the attacks and the injection of the serum; it was possibly a coincidence. However, it seems to me to have been the only possible factor, and I shall be very cautious in future. A point of interest is that dyspnoea did not arise when the urticaria was at its height, as one would have expected it to do. A question which seems to me to be of importance is whether the benefit which one patient derives from the serum and the harm which it inflicts on another is due to the personal equation of the patient or to the personal equation of the animal from which the serum is derived. I hope that someone else will relate his experiences of the administration of the serum to asthmatics.

LETTERS, NOTES, ETC.

IT is officially notified that the exhibit of Messrs. Burroughs, Wellcome and Co. at the Bombay Medical Congress, held in February last, has received the highest award.

PRIZE FOR ORTHOPAEDIC WORK.

THE prize Umberto I, of the value of £140, will be awarded in accordance with the decision of the Provincial Council of Bologna for the best work or invention in the domain of orthopaedic surgery. The competition is open to medical practitioners of all nationalities. Applications relating to the competition should be addressed to the President of the Rizzoli Institute in Bologna. The competition will close on December 31st, 1909.

PATHOLOGY OF GLYCOSURIA.

DR. C. BELCHER (Birmingham) writes: Having had a run of six cases of diabetes—perhaps more correctly or generically termed glycosuria—the fact is poignantly thrust before me, Why should this condition occur? What defect in the economy is there that sugar appears in the urine, or in what way does the metabolism as a whole, or of an organ, fail, so that the physiological conditions cease and a pathological change is wrought? All these patients were men about 60 years of age, and inclined to be obese, four of them were temperate men, one moderate, and the other addicted to immoderation. This one died, and the curious factor in his case was that the symptoms were quite remote from glycosuria, but he had an insignificant pimple on his neck, upon which a stray fly would persistently alight, and this gave me the clue. It afterwards developed into a carbuncle, from which the man died—but this is by the way. The present theories given for glycosuria do not seem to account for the condition, nor nearly satisfy the "causa causans." Now all these patients were inclined to be stout; can it be that in these cases a certain point was reached when the chemical metamorphosis of the tissues failed, from nervous degeneration or other causes, so that the sugar circulating in the sanguineous fluids failed to be converted into lipomatous tissue or cells? That such saccharin bodies can be converted into fatty products can be demonstrated by the simple fact that it is done in a direct manner by bees; at a certain season when wax is required to form the honeycomb, similar in composition to the fatty material of the human economy, except having a stearic acid base instead of an oleaic acid base. It is produced by the bees at the expense of the honey. While this process is going on a good deal of heat is produced and a large quantity of oxygen used up to effect the conversion. Now may it not be possible that owing to a deficiency of oxygen to the tissues or the organ at fault that the sugar is not converted into fat and remains in the circulation and excreted by the kidneys in the urine? It occurred to me that the deficiency may be brought about by failure of the haemocytes of the blood to absorb the oxygen in the lungs, or being in an unstable condition, unable to act as carriers of oxygen in the blood in sufficient quantities to produce the conversion of saccharine elements to fatty bodies in the tissues.

VIVISECTION AND THE AURORA BOREALIS.

WE are indebted for the following story to Sir Samuel Wilks. He says a friend was lately in an hotel where he heard an old lady declaiming against the horrors of vivisection. She went on to say that there was no cruelty or dreadful thing that scientific men would not do to find out how things acted. There was nothing that God had created but what they would destroy to look at its inside; but "thank God," she ended, "they can't touch the beautiful aurora borealis!"

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

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N.B.—It is against the rules of the Post Office to receive letters at *Postes Restantes* addressed either in initials or numbers.